First Copy

A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

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PUBLIC LIBRARY AUG 1 1931 DETROIT

See Two Million Passenger Car Sales in 1931 on Basis Of First Half Registrations

Estimate Based on 1930 Figures Showing 63% of Year's Total in First Six Months; Expect Next Half to Be Good

NEW YORK, July 30.—Consumption of new passenger cars in the United States in the full year 1931 will be in the neighborhood of 2,000,000, with the probability that the total will be neither far above nor below that figure, according to an estimate based on the actual registrations for the first six months.

Retail sales as measured by registrations in the first half of last year accounted for 63 per cent. of the total for the full year. If the domestic market is broken into similar parts this year, with 37 per cent. of the sales in the last half, the total for the year will approximate 1,868,000, as compared with 2,626,068 in 1930.

Over a long period of years, however, new car sales in the first half of the year have averaged 56 per cent. of the total for the full twelve months. If this year proves an average period, the registrations in the second half will amount to 924,870, bringing the 1931 total to 2,102,000. In such an event, the sales in the second half year would be only 5 per cent. below the corresponding period of 1930.

The probability is that the total of 1,177,130 for the first six months of this year will be found to have been somewhere between 56 and 63 per cent. of the total, and that neither the 63 per cent. of 1930 nor the average of 56 per cent. will be repeated in 1931.

That means, therefore, that new registrations for 1931 may be estimated at roughly from 1,868 000 to

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BUICK DEALERS ADOPT ACTIVE FALL PROGRAM AT CAROLINA SESSION

CHARLOTTE, N. C., July 30.—With the usually busy autumn season approaching, Buick automobile dealers from all sections of the two Carolinas assembled here Tuesday to lay plans for intensive selling activity.

The meeting was held at Hotel Charlotte at the call of Paul Diver, manager of the Charlotte zone headquarters of the Buick Motor Company. Approximately seventy-five dealers and officials of the Buick zone headquarters attended the business sessions and the luncheon. The business sessions were held behind closed doors.

Members of the conference indicated that a substantial increase in the demand for this line of automobiles compared with the present mid-season level is anticipated for late August and early September. Some reports said that demand for automobiles has held up somewhat better than had been expected for the current period.

June Commercial Car Sales Show Total of 28,490 Units

NEW YORK, July 30.—Complete figures covering commercial car sales in the United States for June, 1931, disclose the total as 28,490. This compares with total commercial vehicles sales in June, 1930, of 33,515. In May of this year the similar total was 33,489 and in April 36,851 commercial units were placed in consumers' hands.

The showing made by the commercial car producers in June is excellent on a comparative basis. While greatly reduced from record levels, the sales totals are running far closer to last year's figures than is the case in the passenger car field.

The probability is that present sales of commercial cars very closely represent the actual replacement need. The utility factor in this field makes it impossible for users to delay purchases of new transportation equipment beyond a certain point. Commercial car sales for the past few months make it appear certain that this point has been reached. It is pointed out by a close observer in New York that the condition existing in the commercial car field is very similar to that in the steel industry. Here orders have been reduced to a point where they represent the irreducible day to day needs of industry.

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July Production About 210,000 Units Survey by A. D. N. Shows

Output Decrease Follows Normal Seasonal Trend, But Is Less in Proportion Than Was the Drop in July, 1930

NEW YORK, July 30.—A telegraphic survey of vehicle manufacturers just completed by Automotive Daily News indicates that July production for the entire industry, passenger cars, trucks and other vehicle units total approximately 210,000. This figure compares with 249,462 vehicle units produced in June, 1931, and with 272,557 in July, 1930. These latter figures are the official totals as revised by the Department of Commerce in Washington.

In this connection attention may be called to the fact that on June 30, Automotive Daily News published its estimates of the output during the month of June, based on its usual wire survey. Our figure for the June 1931 output was 250,000. As noted above the revised and official figure from the Department of Commerce was 249,462, putting us just 538 units off the actual total.

While this 210,000 vehicle units is the lowest July production in many years, it is not such a bad showing on a comparative basis. The reduction in output is merely following normal seasonal lines, in relation to the much lower output rate that is in evidence this year. In July 1930 the 272,557 compared with an output of 350,567 in June, 1930. The drop this year in July under June amounts in round numbers to 40,000 vehicle units. The decrease in July 1930 under June of that year was 78,000 vehicle units. The decrease this July works out at approximately 16 per cent., while the drop last July under June was roughly 22 per cent.

It is considered certain in well-informed circles that August will continue to register a decline in production, with the total slipping

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S.A.E. PRODUCTION MEETING WILL BE HELD AT DETROIT

DETROIT, July 30.—The national production meeting of the Society of Automotive Engineers will be held at the Book Cadillac Hotel here, October 7 and 8.

It has been arranged to have five papers presented which deal with management problems and new developments in production equipment. Subjects to be discussed are various methods of welding, the cleaning and preparation of metal surfaces for coated finishes, the hot coining of drop forgings, permanent mold casting practice and inventory control.

The production dinner will be held during the meeting.

BEEH, BOSCH OFFICIAL, FORECASTS NOTABLE IMPROVEMENT IN FALL

SPRINGFIELD, Mass., July 30.—A notable improvement of business will be manifest in the coming fall months, in the opinion of of Louis L. Beeh, vice-president in charge of sales of the United American Bosch Corporation.

Prices have reached bottom, merchants stocks are low, and renewed buying from the manufacturers in more ample volume is presaged, he says. The revival, though gradual, will be more than seasonal in character, he predicts, and a brighter outlook in Europe will have its favorable effect here. He regards the stagnation in American business as 80 per cent. psychological in its significance.

The most active department in the Bosch plant is the radio. Market demand is well distributed among the various items in this line, it is said, and while the radio is subject to more than normal fluctuation the curve is upward at present.

New magneto and ignition products are expected to bring increased business to the Bosch factory in

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FRANKLIN PRODUCTION SCHEDULE FOR AUGUST STEPPED UP MARKEDLY

SYRACUSE, N. Y., July 30.—Production schedule for August at the plant of the H. H. Franklin Manufacturing Company is being stepped up considerably over the schedule maintained in July, in order to keep pace with dealer demand.

Franklin shipments during the first twenty-seven days of July showed a gain of 30 per cent. over the corresponding period in June and more than two and one-half times as many dealers' orders were received.

AUBURN BUYS PLANE FOR USE OF OFFICIALS IN BUSINESS CONTACTS

AUBURN, Ind., July 30.—Use of an airplane by company officials in order to reduce travel time, cut costs, and enlarge their hours has been adopted by the Auburn Automobile Company, with the purchase of a Stinson tri-motored club model.

The plane, which has a capacity of eight passengers and pilot, will be used by Auburn officials between the company's nine plants located in various cities in the Middle West, and to contact dealers and distributors from Boston to Seattle. Recently, in a similar plane, N. E. McDarby, vice-president in charge of sales, traveled 13,000 miles, visiting twenty-four distributors and made sixteen dealer contacts in twenty-five days whereas the same trip in previous years took a total of over ninety days.

"The use of an airplane is merely

(Continued on Page 2)

Late News Flashes

Flint, Mich., July 30.—L. W. Tobin has been named as superintendent of stores and planning by the AC Spark Plug Company. Tobin's taking over the duties of the planning department in addition to his former duties as superintendent of stores is occasioned by the resignation of Charles Carroll as production manager in charge of the planning department.

* * *

Toledo, O., July 30.—Holders have been notified that $1,000,000 in Willys-Overland first 6½ per cent. bonds, due in 1933, have been selected for redemption September 1 at 101.

* * *

New York, July 30.—Westinghouse Air Brake in the June quarter earned a net of 30 cents a share, as against 31 cents in the preceding quarter. Six months net was $1.20 a common share, as against $1.36 a year ago.

* * *

Toledo, O., July 30.—Net profit of the Libbey-Owens-Ford Glass Company for the quarter ended June 30, 1931, was $15,980 after taxes and charges, compared with $380,376 in same period last year.

* * *

Washington, July 30.—William Green, president of the American Federation of Labor, estimates 175,000 persons lost jobs during July, bringing the total unemployed to 5,200,000.

Complete June Commercial Car Registrations

See Pages 6, 7,

AUBURN BUYS PLANE FOR USE OF OFFICIALS IN BUSINESS CONTACTS

(Continued from Page 1)

an additional step in modernizing a business." R. H. Faulkner, president, said. "For instance, it is approximately 135 miles from Auburn, Ind., to Connersville, Ind., where one of our plants is located. Our executives, engineers and production men are constantly going between these two cities. By train the travel time, due to changing trains at Indianapolis, is seven hours, or three hours and a half by automobile. Plane time is slightly over one hour. Our executives can now leave Auburn at 9 a. m. and be in the Connersville plant by 10.30 a. m., and by leaving Connersville at 4.30 p. m. can be home by 6 p. m. This permits them a day's work at the Connersville factory with only slightly over two hours used for travel.

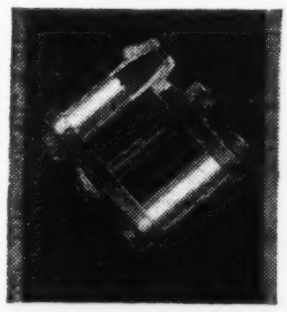
"At Auburn we do not think of airplanes in terms of flying, but as a modern means of transportation similar to the addition of the latest type multiple drill in a machine shop or an adding machine in the accounting department."

MEXICO CITY TO HAVE FORD ASSEMBLY PLANT

Mexico City, July 30.—The Ford Motor Company of Mexico today announced that a contract had been signed for the construction of a new Ford assembly plant here. Work on the plant will start at once and about 1,500,000 pesos (about $750,000 at par) will be expended.

It is estimated that the plant will be finished in nine months and will employ 800 men and turn out 100 cars daily, as compared with the present pay roll of 300 men and daily production of thirty cars.

IMPROVED
Tryon
SPRING SHACKLES



Important new features embodied in Improved Tryon Spring Shackles result in greater inbuilt strength, greater accuracy, increased bearing surfaces, improved lubrication, easier riding and longer life.

Manufacturers: See mechanical specification tables in this issue for Tryon equipped cars. Write for information and quotations.

Sole Licensee:
TILLYS-MORROW CO., INC.
ELMIRA, NEW YORK

MOVING TRAFFIC LIGHTS IN HOLLAND TUNNEL TO BE GIVEN MONTH'S TEST

Jersey City, N. J., July 30.—Something new in the way of traffic lights has been devised by the traffic experts of the Port of New York Authority. It was announced yesterday that a month's trial will be given to moving traffic lights designed to keep motorists going at the thirty-mile-per-hour minimum speed limit of the Holland Tunnel from Jersey City underneath the Hudson River into Manhattan at the foot of Canal Street.

On a recent week end nearly 150,000 cars passed through these twin two-mile tubes, almost the theoretical capacity of the tunnel. In order to speed up traffic moving lights will be operated through the tunnel on an endless wire chain, spaced seventy-five feet apart. Signs will instruct motorists entering the tunnel to pull alongside one of these lights and follow it through to the exit. This scheme, it is believed, will keep cars at a safe distance apart and also do away with "lagging" spots in the tubes at the beginning of the upgrades from the center of the tunnel in both directions.

BEEH, BOSCH OFFICIAL, FORECASTS NOTABLE IMPROVEMENT IN FALL

(Continued from Page 1)

Brightwood in the near future. Aviation ignition equipment which has been in development for some time is expected to come into production before the end of the year. This is in line with the movement to reduce operating costs in this realm of transportation. It will be of the battery ignition type, applying a voltage-regulation generator of a type similar to those in use on motor buses in this country and in Europe for smaller automobiles as well.

A new magneto of the flywheel type is expected to be a means of bringing more business to the Bosch establishment. The first samples of this product were shipped out a few days ago.

Sales of the Bosch oil-injection systems for Diesel engines are reported as showing a 75 per cent. increase this year.

FEWER INDUSTRIES CUT WAGES IN JUNE, EFFECT FELT BY 20,732 LESS

Washington, July 30.—Two hundred and ten establishments in forty-five manufacturing industries reported wage rate decreases for the month ended June 15, as compared with 293 establishments reporting wage decreases in forty-six industries for the month ended May 15, Bureau of Labor Statistics announces.

Decreases in June averaged 10.8 per cent. and affected 25,645 employees, as compared with decreases in May, averaging 10.4 per cent. and affecting 46,377 employees.

For the month ended June 15, five establishments showed increased wages affecting 182 employees, an average of 12.3 per cent., while in May, six industries reported increases averaging 3 per cent. and affecting 743 employees.

VANDERZEE ANNOUNCES FIELD STAFF CHANGES FOR DODGE BROTHERS

Detroit, July 30.—Appointment of new regional managers in the Chicago and Kansas City sectors was announced today by A. Vanderzee, general manager of Dodge Brothers Corporation.

P. J. Paul is transferred from Kansas City to Chicago, while C. E. Warner, formerly sales representative in New York city, is sent to Kansas City. M. C. Nurse has been appointed sales representative, with headquarters at Columbus, O., succeeding J. G. Graham, transferred to Cleveland in the same capacity.

P. M. Pontius is the new sales representative at Joplin, Mo.; A. A. French at Green Bay, Wis.; L. W. Mann at La Crosse, Wis., and D. L. Beck at Spokane, Wash.

SEE TWO MILLION CAR SALES IN 1931

(Continued from Page 1)

2,102,000. Taking the easiest short cut to an estimate between these two extremes by using the average a total of 1,985,000 is obtained. This would mean that the sales in the first half were slightly more than 59 per cent. of the projected total for the full year. Considering the business outlook, an estimate of 1,985,000 for the year seems the most likely of fulfillment.

Such a total for the year would mean 808,000 registrations for the final six months, as against 972,459 in the corresponding period of 1930, a decline of 16 per cent.

There is a strong feeling in the trade, however, that the current six-month period will be surprisingly good, with sales in the final quarter running ahead of last year. A strong business upturn in the fall most certainly would result in automobile sales of sufficient volume to top the low levels of 1930.

A total of 1,985,000 new car sales for this year would represent a decline of 24 per cent. from last year, while 2,102,000 would be a falling off of 20 per cent. Registrations in 1928, 1929 and 1930 averaged 3,215,000. Sales of 1,985,000 this year would represent a decline of 39 per cent. from the everage of the three preceding years, while 2,102,000 would be a falling off of 34 per cent. from the average.

Retail sales in June were much better in tone in most sections of the country than in the preceding months of this year. The decline was only 22.6 per cent., as against a falling off of 28.8 per cent. for the entire six-month period. July is expected to show a still further improvement in the rate of decline from last year.

The following table of registrations for the first six months of this year, as compared with 1930, shows the gradually narrowing rate of decline:

	1931	1930
January	126,786	180,094
February	134,133	211,645
March	200,841	298,824
April	265,732	357,063
May	247,727	345,041
June	201,911	260,942
Totals	1,177,130	1,653,609

With the manufacturers holding production to consumption with remarkable success, it appears certain that domestic sales, plus exports, for the entire year will eat up all the output, if not more, and thus hold dealers' stocks to the low level which prevailed at the beginning of 1931.

JULY PRODUCTION ABOUT 210,000 UNITS

(Coninued from Page 1)

below the 200,000 mark. July and August this year have seen and will see a number of plants closed for vacation periods. In other factories, work in various departments will taper off as schedules on parts for current models are completed. There have not been as many plant shutdowns to date as it was feared there would be. A good many companies have found that they could keep their employees at work to advantage and general vacations have been omitted.

It is pointed out also that while production and factory shipments will probably continue to decrease during the rest of 1931, employment later in the year will show improvement as factory after factory swings into production on the new models that will be offered to the public at show time.

MURNANE, FIFTY YEARS WITH CHAPMAN VALVE, GETS MEDAL

Springfield, Mass., July 30.—Thomas Murnane veteran of half a century's service with the Chapman Valve Manufacturing Company, has been awarded a gold medal, suitably inscribed and set with five chip diamonds in recognition of his long connection with the company. The recipient of the medal, who is 70 years old, was one of twenty-eight who received medals for service ranging from five to forty years from Vice-President and General Manager Thomas F. Maher.

SPARKS *from* DETROIT

Price War Benefits?

* * *

Guessing on Ford

* * *

An Original Idea

Chris Sinsabaugh—Detroit Editor

"I TALKED with a gasoline station man who sells all the usual gas station stuff," contributes E. M. Lubeck of the Dealers' Service Bureau of Pontiac. "He said:

" 'Who benefits from this gasoline price war in Detroit? Look at it this way: One day you get eleven gallons for a dollar. The next day we sell twelve for a dollar. Next day or so it is ten for 97 cents. Suppose it averages ten for $1. You can count on more miles today for your money than ever before, but suppose you have a small car and get, say, fifteen miles to the gallon; then you get 150 miles for your dollar. You know you are traveling cheap, so the more miles you think you get on your gas the more wear and tear you put on the tires.

" 'Tires are lower priced now than ever before. So more miles for a dollar means more tires to be worn out and replaced at a price where you get more for your dollar. If that isn't economical transportation, then there never was such an animal, and I am not advertising Chevrolet either.'

"To me this sounds like the old Chinese axiom—it's an ill wind that blows nobody good. Perhaps they will soon begin giving gasoline away. Two gallons with an inner tube, and a tankful with a casing.

"There is supposed to be a code of ethics in the gasoline business. What good is a code of ethics if business seems to be needed in both the gas and tire business? Why hedge? Let's come right out now and play both games toward the middle. The quicker the situation is cleaned up the sooner every one will be happy."

* * *

"WE'RE all guessing on when Ford is going to do something in the way of an announcement, but I would venture to predict that we will not hear anything definite about a new Model A or the eight until business conditions improve," says one man prominent in the industry, discussing the universal topic. "By grapevine telegraph from Dearborn I hear that Henry Ford is going to get what business he can in the present market, reserving, until conditions change, any new stuff he may have ready to spring. It is said he realizes that it would be foolhardy to come out with something different with things the way they are now regardless of how good it is.

"That sounds sensible to me. That being the case, I'll go on record as saying that unless we get an unexpected pickup in business there will not be any new Model A brought out in September. Henry is going to grin and bear it and, when he thinks new models will sell cars, he will shoot the works."

* * *

FOR a week now, the John H. Thompson Company of Detroit has been working along new lines in pushing Plymouth sales. To me it sounds like an original idea in the way of trade-ins, and inquiry at the salesrooms discloses that it is producing results.

Through the dailies, Thompson advertised that where the price allowed on the trade-in exceeds the cost of the Plymouth, the customer would be paid the difference in cash. In other words, where the allowance was $1,000 say, and the bill for the Plymouth was $700, the customer not only gets a new Plymouth, but a substantial amount of cash.

It is said that this bold offer has brought in quite a few owners of cars in the high priced bracket, marking a trend on the part of such owners to get new cars, even if they could not afford to replace them with automobiles of the same make and price.

* * *

PETE DE PAOLO, ex-racing champion, is out on the road, doing his stuff for De Soto. Roy Peed sent him out in a de luxe sedan, and the key points he will visit for the purpose of conducting meetings for the wholesale and retail staffs of the dealers include Lima, Columbus, Pittsburgh, Youngstown, Canton, Akron, Cleveland, Erie, Batavia, Rochester, Auburn, Syracuse, Oneida, Utica, Gloversville, Amsterdam, Schenectady, Albany, Troy, Kingston and Poughkeepsie.

Ford Dealer's Service Special Gained New Patrons

Offer Limited to Month of May Caused Such Rush That Two Extra Shopmen Had to Be Employed

By K. H. LANSING

LARGELY as the result of making a special group service operation offer by postcard to owners of A and AA Ford model owners in Camden county, New Jersey, good for May only, at $6.50, with material additional, Cramer & Myers, Inc., Ford dealer, Bridge Boulevard, at Federal Street, Camden, N. J., in that month, not only was able to obtain more new service customers than ever before in one month, but also was obliged to add two men to its shop force to meet the demand. And this was only the second offer of the kind ever made by this dealer. While many concerns are using postcard offers of mechanical operations at low prices, rarely does a single announcement of this nature bring such favorable response.

The special offer, which was headed, "Unheard of Prices for the Month of May Only; Ford Model A and AA Owners," consisted of the following eight operations: (1) Grind valves, clean carbon; (2) clean and adjust spark plugs, (3) clean and adjust breaker points, (4) clean carburetor jets and adjust, (5) adjust four-wheel brakes, (6) wash car and polish body, (7) lubricate chassis, (8) water in battery, air in tires. Both telephone numbers and street address were given on the card, with the words "Super Service Station" appearing prominently.

On May 26 the repair presentation figure from the service department was $179 for the day. The daily average presentation figures range somewhere between $110 and $127 and the average daily number of jobs is thirty. May, in fact, improved in service and repair jobs considerably over the four previous months.

Ed Myers, partner in the dealership with Vic Cramer, said of the the postcard and its results:

"This was an unusual offer, covering unusual conditions. Today we have a buyers' market, so the dealer must allow the prospect to get a picture of real values at the low cost he thinks he should pay. What he wants is a lot of values at a special price. In this instance we were offering eight operations at the surprisingly low rate of $6.50 for the group.

"The service department carried out in every particular the offer thus made. We feel that this special worked out wonderfully well."

Of course, in a number of cases, considerable repair work in addition to the specific offer was obtained from owners who brought in their cars, such jobs as ring and piston work and relining brakes being among the most common. The extra work required on cars thus brought in, obtained through suggestions to the owner of the need for it, is what makes group specials particularly worth while. The ordinary course of procedure this dealership in following is to send a letter on service, a few days after the start of the special, to those who have not responded to the postcard, mentioning the offer that was made. If there has been no response within ten days more, the service manager, or some one designated by him, follows up the prospect with a personal call relative to the offer. Russell D. Hartman, service manager, follows up complaints, as well as those responding slowly to service offers, by personal calls and sees owners to whom the dealers have sold cars, from two to three times a month, relative to service.

All shop operations are on a time basis and the mechanics are paid an hourly rate. There are nine mechanics in the shop and eleven men in the department, including the service manager. The men are working at the present time from nine to nine and one-half hours a day, but the house is considering the installation of twenty-four-hour service, with a night and a day shift. Twe mechanics devote practically all their time to working on used cars.

The department, which is almost entirely of glass on two sides, with skylight, occupies space 65 by 110 feet. This arrangement results in little or no use of electricity for steady lighting purposes while work is confined to daylight hours. Even in the late hours of the afternoon the electric lights are not in use, a mechanic using his hand flashlight if he needs to concentrate for a moment or so on a car part where the "visibility is low." The only regular use of electricity is the department is in battery testing and the like, and in the operation of tools such as portable drills, requiringit.Th such as portable drills, requiring it. The service department is, indeed, a super service station, as advertised, with high pressure washing and lubrication at the lower right-hand side of the space, coming next to the reserve stock of new cars, for which there is space for eight. A wide aisle divides this side of the department from the mechanical shop.

Here are bays, outlined with white boundaries, for twelve cars in work and ordinarily these spaces are filled. In case of emergencies the new cars across the way may be moved elsewhere and the space they occupied also turned into working bays. On the shop side there is an individual steel workbench for each bay. At the lower end of the department on this side of the motor repair room and enclosed space for machine tools. The hydraulic lift just across the aisle is used both for chassis washing and for lubrication, as well as for certain mechanical repairs to chassis and running gear. The parts department occupies space at the upper end of the service station space, and nearby is the high desk of the service manager. Above is a mezzanine for the storage of fenders and other large parts, and an office adjoins. Every six weeks the shop cement floor is painted dark gray and restripped in white for the bay spaces. The floor is almost constantly being cleaned by the janitors and no oil drippings are allowed to remain, or litter to accumulate. The department has such a name for being spotlessly clean that women motorists and the wives of car owners frequently enter the shop and watch operations. The employees of this department wear white overalls and the service manager a white coat, which garments are supplied fresh every day.

Each mechanic, before beginning work on a car, puts on it the following slip covers: Steering wheel slip, which is removed only when the job has been completed and the customer has called for the car; upholstery slips, gear shift cover, slips for two doors, cowl cover and covers for each fender. In this way the mechanics work in comfort and keep their overalls reasonably clean.

The department maintains free parking space for Ford car owners, whether customers or not, just outside the service station doors. Here usually two men, and always one at least, are on hand to greet the arriving Ford car owner and take his name and address on a slip. He is told to leave his car as long as he wishes. After the owner has gone his way a service man examines the car to note any servicing or repair operations it may need. As he already has the name and address of the owner, he reports the needed operations, if any, for filing as a new lead for solicitation of service work. Should the car palpably need a wash or lubrication, it will be suggested to the owner before he leaves, so that it may be all ready for him on his return. He is not, however, importuned for the work, but the suggestions are made in a most diplomatic way. In this manner considerable work is obtained.

Plays Up Family Angle

STOP!
. . . YOU owe it to your family to keep within the budget. Why not settle the automobile problem by coming in and letting us show you how you can SAVE and remember when you drive a "TAIT USED CAR" you drive the BEST.
WHEN you buy A TAIT USED CAR YOU DRIVE the best AND.... SAVE
OPPORTUNITY
'30 CORD SEDAN This car at less than ½ price. In perfect shape.
$1500
TAIT MOTOR
611 MAIN STREET
Of Course . . .
1925 Willys-Knight . . $175
1927 Auburn Sedan . . $150
1926 Roo Sedan . . . $95
1926 Buick Coupe . . . $150
1926 Buick Sedan . . . $150
1928 Essex Sedan . . . $165
1928 Essex Coach . . . $150
1928 Hudson Sedan . . $300
1928 Nash Coach . . . $275
1926 Nash Coach . . . $175
1925 Studebaker Sedan $250
1925 Auburn Sedan . . $350
* SPECIAL *
Packard Sedan 1929 Wonderful Shape At Low Price
* SPECIAL *
Nash Sedan 1929 Perfect Condition
$475
Tait Motor Sales, Inc.
611 Main St. Tel. 1-5129
OPEN EVENINGS

STRESSING THE FAMILY ANGLE in its used car advertising copy, the Tait Motor Sales, Inc., of Springfield, Mass., has been doing a good job. A line drawing, designed to catch the eye, is always used. Specials and "opportunities" are boxed separately

TWO GEORGIA DEALERS CHANGE HEADQUARTERS

Atlanta, Ga., July 30 (UTPS).—The Grant Motor Company, formerly the Grant-Harris-Rippey Company, located at 830 West Peachtree St., has leased the building formerly occupied by the Goldsmith-Becker Company, at the corner of West Peachtree and Harris Streets.

At the same time, the Martin-Cadillac Company, located at 486 West Peachtree St., has leased the building now occupied by the Grant Motor Company, for a long term of years, and will move about August 15, it has been announced.

The Martin-Cadillac Company, which is headed by Robert H. Martin, will continue to maintain its present headquarters at 486 West Peachtree St. as a display room.

Willys Dealer's Mail Drive Stresses Thrift, Style, Speed; Brings Sales in Dull Month

A DIRECT mail campaign started in June by the Evans Motor Company, dealer in Willys and Willys-Knight cars and Willys trucks, 7112-14 Germantown Ave., Philadelphia, has proved so effective in spite of the absence from town during July of a large number of owners and logical prospects for these products, that it will be expanded from the original plan of a two months' drive to one of four. The return from seaside and mountain resorts of many established and prospective patrons, during this period, it is expected, will considerably expedite sales.

Since the inception of the campaign, direct mail of one kind and another has been sent out every two weeks. Sometimes these communications will consist of office-composed circular letters; at other times, factory literature, and again letters with factory folders inclosed.

Following is a sample circular letter, bringing out sharply what Willys-Overland has to offer this year:

"Dear Sir—With price and quality the chief factors in 1931 buying, this letter will interest you.

"This year Willys-Overland has done a remarkable thing. They have made an important contribution to thrifty buyers. As a result, we are offering a Big Six priced like a four, a powerful eight, a brilliant Knight and two new Willys trucks—the company's finest quality products in twenty-four years—at impressive savings up to $700, as compared to last year's levels.

"Our models include more than 100 new and improved features. They are larger cars. They are strikingly beautiful in style, color and refinements. They are built on longer wheel bases, with wider tread and wider bodies for greater riding comfort.

"From a standpoint of performance they will do everything you expect. In local demonstrations they have shown thrilling speed of from seven to eighty miles per hour, and up to fifty in second.

"Whether you are now interested in a new car or not, we invite you to experience, behind the wheel, what any one of these new motor cars will do.

"You are not obligating yourself in any manner, and the writer hopes to welcome you in person.

"Respectfully,

"JOSEPH T. EVANS,

"Evans Motor Company."

It will be noted that the offering to "thrifty buyers" is brought out early in the letter, which is an inducement in these times, yet quality is equally stressed, as well as style, speed and improved features. Savings may mean much, but there are many Willys-Overland products purchasers with whom this is never the main consideration, even in such a year as the present.

"Just at this time, Willys cars are selling better," said Mr. Evans. Pointing to a light green sport sedan, occupying the most conspicuous position close to a display window, he added:

"Sport sedans are moving best now, with the coach coming next."

The sedan mentioned displayed a neat black card with white lettering, calling attention to this model being "The World's Fastest Car."

Mr. Evans, in mentioning that the dealership had made money during July, added that April had been an outstanding month, with heavy sales, followed by a money-making period in May, but with a recession in June. The campaign of direct mail apparently began to show effects with the advent of July. Service work, according to Mr. Evans, has been intermittent.

BUYS EIGHT PLYMOUTHS

Omaha, Neb., July 30.—An Omaha rent-a-car company purchased four of the new free-wheeling Plymouths from the Andrew Murphy & Sons Company, distributor, several weeks ago in order to try out the publicity value of free wheeling in its business. The company last week purchased four more Plymouths.

BUICK DEALER SPURS ACCESSORIES OUTPUT BY IMPROVING DISPLAY

THE year 'round display of accessories in the new and used car departments and on the service floor is conducted by the Lincoln Buick Company, 12th and Que Streets, Lincoln, Neb., with considerably better results than the method used several years ago by the company, when all accessory displays were confined to the parts department, according to Fred Sidles, president of the company.

In arranging these displays, care is taken to make them as attractive as possible. All displays and display cases are kept free from dust and dirt and are changed frequently, while each display is more or less isolated, so that it attracts the eye of the customer. On the larger items, such as heaters and trunks, new and used car salesmen and service floor men and mechanics are allowed a commission on sales.

A glass show case, inclosed to keep out dust, is kept in the office of the service department manager and the display is changed seasonally. During the warmer months of the year the display centers upon polishes, cleaners, spark plugs, etc., while in the winter, chains, radiators, fluids and shutters and simllar articles are placed in the case. The latter is placed so that it attracts the eye, both from the service floor and from the street.

A display is also kept in the large plate glass window facing the street on the service floor. The subject of this display is changed frequently, as it collects dust quickly, but the subject usually centers upon refinishers, special greasing operations, etc., and is calculated to bring in business to the service department and shop.

A special display rack has been placed in the service department to hold a hot water heater exhibit. The display is slightly higher than the top of an automobile and is so placed that it strikes the eye of the customer as he drives onto the service floor. An electric-flasher sign or some other moving exhibit is used in connection with this display, which is easily accessible from a mezzanine floor.

On the new car show floor an elaborate glass and polished wood show case has been placed near the main entrance. The displays in this case are tastefully arranged and usually consist of an automobile trunk, hot water heater, set of spot lights, or some similar accessory which has an intrinsic display value. The display in this case last fall when the football season was on consisted of several highly colored auto robes in a setting of artificial autumn leaves, a football resting on the center robe, and several University of Nebraska pennants. One or two sport model Buicks are usually kept on the show floor, also, and these serve as a suitable background for a display of spot lights, special horns, robes, etc., which are attached to the car.

The used car showroom has two display cases, and the displays in this department include chains, radiator fluids, cigar lighters and the more common and practical accessories.

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

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FRIDAY, JULY 31, 1931

ADVERTISING AND BUSINESS HEADQUARTERS

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George M. Slocum, Manager Detroit Bureau, 427-8 Fisher Building, Detroit, Mich., phone Empire 3500; Willard R. Cotton, Western Manager, 333 North Michigan Ave., Chicago, Ill., phone Central 5936; Metz B. Hayes, New England Manager, Little Building, Boston, Mass.; Blanchard, Nichols & Coleman, American National Bank Building, San Francisco, Cal.; Lincoln Building, Los Angeles, Cal.; 1008 Henry Building, Seattle, Wash. Address ALL advertising and business correspondence to 350 Hudson St., New York City.

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Detroit Bureau, Chris Sinsabaugh, editor, 427-8 Fisher Building, t, Mich. Telephone Empire 3500. Contributing editor, John C. Wetmore.

Consumption Business Ahead

IT is rather a notable factor in the present business situation that what may be called consumption sales are running far ahead of what may be termed capital investments. In explanation, let us say that "consumption sales" are such articles as food, shoes, hats, other clothing, household equipment. In other words, the manifold necessities that go to making up the life of the modern family.

On the other hand, capital investments may be loosely described as products intended for the development or increase of business. Additions to plants or factories would come under this head. So would machine equipment for increasing output or efficiency. Understand, of course, capital investments are being made. Manufacturers, looking ahead, are bringing plant equipment up to the minute, so as to be ready for impending improvement in business. But the volume of this capital investment is tremendously decreased, nor does it show any signs at the moment of beginning the upswing.

There is a lesson in this condition of the moment for automobile dealers. In the automobile sales field we may call the purchase of a new car a "capital investment." The buyer is investing in improved transportation. The most cursory glance at sales figures for 1931 to date proves that while such investments are being made, they are in decreased volume under even those of 1930. This is inevitable during such a period as the one we are passing through this year.

On the other hand, owners of motor vehicles are making "consumption purchases." In our field consumption purchases or sales will be gasoline, oil, repairs, replacements and all the other items that are needed to keep the individual's motor transportation system operating with a reasonable degree of effectiveness.

Certainly, the lesson to be learned by the dealer is that this year he must take advantage of the trend among vehicle owners toward making consumption purchases and putting off capital investments. The dealer who is going to survive the current dull period has got to make his service divisions carry more of the burden of supplying a profit than they ever have done before this. A word to the wise will be sufficient.

The Archaic Horse

OUR British contemporary, the Autocar, in editorializing on the new traffic regulations which have been put into effect in London, has something interesting to say regarding the continuance of the horse in modern city traffic. "It is to be hoped," says the Autocar, "that this is the beginning of a movement which will see the abolition of that cruel anomaly, horse-drawn traffice in a city, where the road surfaces are unsuitable to horses, where their low speed is an annoyance and where their lungs are poisoned by exhaust fumes."

With all the inevitable and necessary reforms in urban traffic, it is truly remarkable that horse-drawn traffic is permitted to continue, as it is in every city of which we know. Not only is it cruel to the animals (the S. P. C. A. has championed far less important causes than is the appeal for the abolition of horses from city streets), but the horse-drawn vehicle is one of the real obstacles to improving urban traffic flow. A single horse-drawn vehicle can create more delays, can interrupt more effectively the even flow of traffic than any other agency that we know of at the present time.

It is possible to make a real step forward in improving urban traffic conditions by eliminating the horse from the picture. City street traffic is now 98 per cent. motorized. Motor vehicles are now built in such a wide variety of types that there is no service the horse can perform on city streets that cannot be better done by a motor unit of some variety. Humanity and efficiency both demand the final passing of the horse from the urban picture.

AUTOMOBILE CLUB HEAD FOR REVOKING LICENSES TO CURB SPEED MENACE

Trenton, N. J., July 30.—"The only way to curb the bus speed menace is to revoke the registration of buses, instead of merely arresting the drivers for infraction of the speed law. By hitting the bus-owning corporations in a vulnerable spot—the pocketbook—the authorities can accomplish more for highway safety than ever will be gained by the prosecution of bus drivers, who are obliged to operate at high speed to maintain the schedules laid down for them."

This statement was made yesterday by Herbert C. Silcox, manager of the Trenton division of the Keystone Automobile Club of New Jersey, in outlining the club's position on the bus speed situation, which is probably the most serious problem confronting state and local authorities today.

"We feel," said Mr. Silcox, "that little has been accomplished by the prosecution of bus drivers. Invariably, their excuse is that high speeds must be maintained to keep up with the schedules. The inference is that the driver who cannot maintain the schedule will not long remain in bus company employ.

"By revoking the registration of offending buses, the state could stop this mad orgy of speed, fostered by the keen competition for business. No bus corporation, no matter how big, can afford to have part of its investment tied up in idle buses. Revision of schedules to conform to the maximum speed law will unquestionably follow resolute action by the state along the lines suggested."

ALUMINUM INDUSTRIES EXPANDS K. C. BRANCH

Cincinnati, July 30.—To facilitate distribution through the Middle West and Southwest of Permite products, Aluminum Industries, Inc., is expanding its Kansas City branch warehouse at 207 East 22d St. to permit handling of the full line manufactured at the parent plant in Cincinnati and the subsidiary plant at St. Cloud, Minn.

Vice-President and General Sales Manager F. J. Glennon, who supervised the warehouse branch expansion in Kansas City, announces that it will be opened formally August 10. Heretofore the Kansas City branch supplied only Permite alloy pistons to the trade in that territory.

Besides Permite alloy and semi-steel pistons, the company's full line includes Permite diachrome valves, steel valves, piston pins, steering-knuckle bolts, tie-road and spring bolts, water-pump shafts, impellers and assemblies, bronze and steel bushings, mufflers and oil-regulator and compression rings.

FAVORS VIRGINIA GAS TAX RAISE TO 6 CENTS

Richmond, Va., July 30 (UTPS).—Increase in the Virginia gasoline tax to 6 cents was advocated by Dr. William H. Stauffer, economist, department of taxation, at a meeting of the Virginia agricultural conference at Blacksburg.

COMING EVENTS

SEPTEMBER

1- 3—**Cleveland, O.** Hotel Statler, Society of Automotive Engineers, twentieth annual aeronautical meeting in conjunction with National Air races.
8-17—**Utrecht, Holland.** Utrecht Fair, bus and truck show.
16-17—**Atlantic City, N. J.** National Petroleum Association, annual meeting, Hotel Traymore.
20-26—**Springfield, Mass.** Eastern States Exposition.
21-25—**Boston, Mass.** American Welding Society, meeting. The following societies will participate: American Society for Steel Treating, American Welding Society, Iron and Steel Division, A. S. M. E.; Machine Shop Practice Division, A. S. M. E.; Iron and Steel Division, A. I. M. E.; Institute of Metals, A. I. M. E.
28-29—**Atlantic City, N. J.** National Association of Motor Bus Operators, fifth annual meeting, Hotel Ambassador.
26-Oct. 2—**Atlantic City, N. J.** American Electric Railway Association, annual meeting.

OCTOBER

1-11—**Paris, France.** International Automobile Salon.
2- 3—**Houston, Tex.** American Institute of Mining and Metallurgical Engineers, petroleum division meeting.
12-16—**Chicago, Ill.** National Safety Council.
14-16—**Pittsburgh, Pa.** Society of Industrial Engineers, convention.
15-24—**London, England.** International Motor Exhibition, Olympia Hall.
22-28—**Prague, Czecho-Slovakia.** International Automobile Exposition.

Contemporary Comment

"AS fur as I am consarned," declared the farmer, "buyin' a new car or havin' this one painted an' prettied up don't mean a thing to me! All I kere about is that she'll run. But the wife an' the young folks are plumb crazy about things bein' spruced up an' good-lookin'. So I s'pose I'll have to lettum have their own way!"

Was the old farmer right or wrong? If his car will go when he wants it to go, and take him and his family back home again—is that enough?

No sir-ee, it isn't, and one shop we know about is so thoroughly sold on the value and purpose of beauty that the proprietor is thinking seriously of getting out some little leaflets on it, to drop into cars at the curb—especially cars which are crying for a beauty treatment. His leaflet will run something like this:

Beauty has a purpose and place in the world. If it were not so, the Creator would not have made such a beautiful world—a world of surpassingly lovely tints and colors, of beautiful forms, of exquisite blossoms, bejeweled butterflies, graceful animals, soaring birds, stately mountains, rolling seas and magnificent vistas.

When we endeavor to make things beautiful we are only walking in His footsteps.

Beauty softens. It appeals to our sense of aesthetic values—and to our emotions. Beauty breaks down prejudices. It makes us want to do something better and finer than we have done before. It appeals to our pride. It stimulates effort.

Beauty has a cash value. When we keep anything we own in prime condition, whether it be a house, a piece of furniture or an automobile, it has a greater resale value if we desire to part with it, and, while we keep it, it is a pleasanter possession to use and to have about.

That which is beautiful because it is in first-class condition has a mental effect upon us. It stimulates us to want to take an enviable part in the world's work.

The purpose of beauty is three-fold. It helps us to reach up; it has a beneficient influence on others; it makes the world a nicer place in which to live.

You'll be wise not to let your car become dog-eared and shabby. It is economy to keep it in nice shape. If you have some work in mind which ought to be done on your automobile, drive around to our place and we'll be glad to figure on it with you. Prices right at that! No obligation!—**Autobody Trimmer and Painter.**

* * *

WHILE the engineering departments establish tolerances when designing some particular part or machine, the shops, in practice, very often find that they can get by with greater tolerances than are actually allowed. Consequently, they take liberties in increasing the tolerances slightly here and there on various dimensions. This liberty, we realize, should not be taken, but there are very few shops that will not take liberties, even though they do not know the real function of the machine or part, and whether or not the tolerances should really be held.

Very often it will be found that a shop is working some parts to a greater accuracy than the drawing calls for, and others not so accurate. This condition is established in nearly every shop, consequently they get into the habit of taking liberties with tolerances.

In theory, tolerances appear to be easily established and maintained. Therefore, draftsmen very often ask for tolerances that are unnecessary. When we stop to think that it takes years of experience to make a good draftsman along any particular line, how can we expect them to tolerance everything correctly? Can any one establish tolerances that would be absolutely correct to meet all conditions in manufacturing and in the field?

Then as to the shops standing for tolerances established by engineers. As previously stated, the shops do not know the function of the machine and they are usually afraid to say they know more about what tolerances should be on a piece of work than the engineering department. Later they take liberties. This we realize should not be done, but I have not yet worked in a shop where it was not done, and I have been in a good many shops. And in some, if they had held strictly to tolerances established, the parts would have been too expensive to machine. It might be asked here, Why do not the shop and the engineering department co-operate more closely? To me this seems impossible, due to the fact that there are times when neither the shop nor the engineering department knows what the exact result of a tolerance will be.

Now in regard to the inspection department passing parts that are not up to tolerances: Inspectors are apt to use what they believe to be good judgment, and you cannot blame them for passing pieces at times that are not exactly to tolerance. They do not always know the thoughts of the designer, nor the function of the parts.—**A. Halliwell, Superintendent General Iron Works Company, in America Machinist.**

Increasing Profits From Bakery Deliveries

This report on economical truck operation in the bakery field was prepared by the General Motors Truck Company, Pontiac, Mich., and appears in serial form in Automotive Daily News. Copies of this report in pamphlet form are now available at all General Motors Truck Company dealer and distributorships.

WHEN maintenance work is scheduled for hours which give promise of maintaining schedules properly, the next step is to establish a simple but efficient method of assuring thorough maintenance. Effective maintenance means that each of the items listed in the accompanying box must be tended to regularly at established mileage or time intervals.

Making sure that these maintenance tasks and needed repairs are taken care of promptly involves three important steps:

A schedule for each truck must be set up and made easy to follow.

The driver-salesman must report the condition of his truck daily.

There must be some means of checking up to find out if work has been done.

Preparing maintenance schedules for bakery trucks should be a relatively easy task. Because bakery routes are fairly fixed and mileage remains almost constant each day, maintenance schedules can be made on a time basis, rather than having to watch mileage. For example, a truck which averages forty to forty-five miles a day can be scheduled for a 500-mile oil change on the first and fifteenth of each month. And other maintenance operations can be scheduled similarly. A garage chart and an individual schedule can be made up for each truck on that basis, and changes need be made only when the truck's route is altered appreciably.

Getting the truck to the shop at the right time and checking on whether or not maintenance operations are carried out should both be handled through the medium of driver's daily instruction and report sheets. And those reports should be made as simple and compact as possible. The less detailed reporting a driver-salesman is required to do the more likely he is to keep his reports accurately and carefully.

Sound maintenance practice pays big dividends in repair cost savings. Every baker should have a simple, workable plan of keeping strict maintenance schedules.

(To Be Continued.)

EFFECTIVE MAINTENANCE MEANS—

1. Correcting tire inflation each day.
2. Changing crank case oil at regular mileage intervals specified by the manufacturer.
3. Greasing and oiling at regular intervals in accordance with the manufacturer's lubrication chart.
4. Thorough mechanical inspection at least every 2,000 miles.
5. Periodic overhauling, as extensive as may be needed to prevent future troubles.
6. Washing at frequent intervals.
7. Prompt reporting and attention to needed repairs or defects in the operating efficiency of the truck.

Time out 5:50 A
Time in. 2:20 P
Date. 8/18/30

DAILY ROUTE REPORT

Truck. 7. Route. 7. Speedometer Out 19302 In. 19351 Mileage 49

INSTRUCTIONS

Take truck to garage for:
Washing ☐ Greasing and oiling ☐
Oil change ☑ Mechanical inspection ☐
Check battery ☐ Repairs on shop order ☐
Mark X any instructions not carried out.
Make Accident Reports Promptly.

REPORT ON TRUCK

Gallons of gas put in. 12 Brakes OK? Yes
Quarts of oil put in. 1 Steering OK? Yes
Engine running smoothly? Yes Wash needed? No
Describe any defects noted in operation: None

EXPENSES

Truck. 7. Date 8/18/30

12 Gals. gasoline	1	50
1 Qts. oil		20
Total	2	00

OK'd by. Krueger
Received payment. Jim

MERCHANDISE RETURNED

Truck. 7. Date 8/18/30
Driver Jim Shane

Quan.	Mdse.	Wt.
	None	

Received by .....

COLLECTIONS

Truck. 7. Date 8/18/30
Driver Jim Shane

Checks	Vouchers
None	
Total	Total

Checks .. None
Vouchers .. None
Total cash. .. 31 40
TOTAL .. 31 40

TRUCK CLUB OFFICIAL FAVORS SEGREGATION EXPERIMENT IN N. J.

NEWARK, N. J., July 30.—Elimination of trucks from Route 25, as suggested by the state Highway Department, is indorsed, on an experimental basis, by A. D. Way, secretary of the Motor Truck Club of New Jersey. Mr. Way also believes traffic in the vicinity of Philadelphia might be expedited by keeping trucks off the Camden-Philadelphia Bridge, and making them use the ferries.

"Our club has always favored segregation of truck traffic," he said yesterday, "and we believe that diversion of the heavy vehicles from Route 25 to the old Lincoln Highway might be a good thing, particularly with regard to the constant interstate movement between New York and Philadelphia.

"When Newark banned trucks from Broad Street, our club made no objection, because Washington Street was widened and properly paved for truck use. South Jersey farmers might not like to be kept off the bridge over the Delaware, but actually the ferry is near the Philadelphia commission market which is on the waterfront."

Mr. Way was asked what he thought of the suggestion by the state motor vehicle commissioner of Connecticut that all truck traffic be kept off the roads on Sundays and holidays, such traffic being regarded as a serious accident hazard as well as a nuisance to the large army of motorists on those days.

"I hardly think any such Sunday ban would be necessary," Mr. Way said. "For one thing there is already a great curtailment in truck use of the highways on Sundays and holidays, a curtailment that the motoring public generally is unaware of.

"Our estimates show that about 75 per cent. of the trucks using the roads on week days are out of service on Sundays and holidays. Or, to put the same situation another way, a recent survey revealed that on a week day 22 per cent. of the traffic on a typical Jersey highway was that of trucks, whereas on Sunday the quota of trucks fell off to a mere 5 per cent., even when account was taken of the heavier pleasure traffic on that day.

"Take the much-discussed shore road, for example. About the only kinds of trucks you will encounter there on Sunday are milk vans and gasoline trucks. Few ordinary mercantile vehicles will be seen.

"Department stores, for instance, do not deliver on Sundays, and no municipality that I know of operates its dumping or refuse wagons on that day. Furthermore, union rules, if nothing else, keep off the road trucks used on construction work," Mr. Way added.

SEATTLE TRUCK SALES REPORTED AS HOLDING UP WELL; 43 IN JUNE

Seattle, Wash., July 30.—Truck sales in King County during June totaled 43, with the total since the first of the year, 667. King County includes city of Seattle. The figures are compiled by the Motor List Company.

Truck sales are holding up fairly well, but are about 30 per cent. below 1930.

The past month even Kenworth, locally manufactured, fell down, but one having been sold, according to the official registration figures. Ford led the field with nineteen; Chevrolet and G. M. C., had four each; Studebaker came up with three.

June figures cannot be accepted as a good criterion, however, as July 1 was the new half-year license period, when the fee was cut in two. Thus some sales were made, where the buyer juggled along without new license plates, until the first of the month, and sales were better than the official figures show.

NEW TYPE BUS ADOPTED BY PARMELEE SYSTEM

Chicago, July 30.—A new type of limousine coach especially built by the Checker Manufacturing Company has been put in operation by the Parmelee System here to replace the style of buses formerly used.

While carrying fewer passengers than the old-time omnibus, the new coach affords greater mobility and makes possible a lower cost of operation.

Accommodating six passengers besides the driver, the coach is equipped with a luggage carrier in the rear, where all baggage is secure under lock and key.

OLIVER GEAR TO EXPAND

Buffalo, N. Y., July 30.—The A. F. Oliver Gear and Machine Company has awarded a contract for the construction of a one-story brick and steel factory building at 1114-1120 Niagara St., to cost more than $50,000.

TRUCK GROUP OUTING SAFETY CONTEST FEATURE

Springfield, Mass., July 30.—One hundred employees from the Worcester, Springfield and Hartford branches of the Kneeland Motor Express, Inc., enjoyed an outing at Turner Park, Longmeadow, as guests of William Kneeland and J. F. Byrnes, general manager. The affair was in the interests of promoting safety in driving among the company employees and the program included a dinner and sport events.

The affair was "stag" and Mr. Kneeland was master of ceremonies. He lauded his employees for their co-operation in keeping accidents at a minimum during the year and urged their continued watchfulness in this matter.

Dancing acts and songs were staged after the speech making by various employees present. Numerous prizes were awarded. The Springfield division proved its superiority by defeating the Worcester and Hartford aggregations in successive tug-of-war contests. John Briscoe was captain of the winning team. The afternoon was concluded with a ball game between the "old-timers" and the more youthful employees in which age was vindicated.

No motor car demonstration today is as powerful as a Nash demonstration—because Sound-proofing makes a *dramatic* difference which impresses every prospect instantly.

Also, because Synchro Safety Shift with Silent Second is the sweetest, smoothest transmission built . . . and because the car is obviously so superior in performance, in appearance and in value.

LISTEN TO THE NASH PARADE OF PROGRESS *with Max Bendix, Official Bandmaster, 1933 Chicago World's Fair, and his Band, Coast-to-Coast, Tuesday Evenings, NBC Network, 9:00 Eastern Daylight Saving Time*

NEW SOUND-PROOFED BODY AND CHASSIS NASH

ANNOUNCED JUNE TWENTY-EIGHTH (5465)

Cars Priced Above $1,000 More Prominent in Cities

NEW YORK, July 30.—Passenger cars priced at more than $1,000, f. o. b., constitute a much larger proportion of the total motor vehicles registered in the larger cities of this country than in the smaller population centers and the rural districts.

In a recent compilation published in Automotive Daily News, it was shown that 70 per cent. of all the passenger cars in operation in the United States, as of July 1, 1931, were purchased at less than $1,000, factory price. Herewith is presented a tabulation of fifty-seven of the larger cities, in which it is revealed that in many cities cars priced at more than $1,000 constitute nearly or more than half of all the cars registered, while the general run is from 35 per cent. up.

In some of the larger cities, however, the percentage of the higher priced cars in relation to the total is smaller than the 30 per cent. for the nation as a whole. These are exceptions, however, and are few.

New York city has by far the largest proportion of cars in the higher price range, with 60 per cent. of the total registrations in the five boroughs being above $1,000. In The Bronx, 61 per cent. of the total are cars priced at more than $1,000, while in Brooklyn the percentage is the same. In Manhattan, however, 67 per cent. of the cars are in the $1,000 and above group, while on Staten Island only 47 per cent. are in this classification.

The higher priced cars hold a more important place in the automotive picture in the Eastern cities than in any other section of the country, with the exception of California, where San Francisco and Los Angeles have a large share of these cars.

In Boston, 47 per cent. of the cars are in the $1,000 or above price class, while Philadelphia and Pittsburgh boast 44 per cent.

Chicago leads the cities of the Middle West in this respect, with 46 per cent. of its passenger cars in the higher priced field. In Detroit, these cars account for 34 per cent. of the total. The second best city in this respect in the Middle West is Cleveland, with 39 per cent.

The higher priced cars do not play such an important part in the South, where Richmond, Va., is the only city with 40 or more per cent. of the higher-priced cars on its highways. In that city, 47 per cent. of the vehicles are in this group.

San Francisco boasts 52 per cent. of its passenger vehicles with an original price of $1,000 or more, while in Los Angeles the percentage is 41. In Seattle, Wash., only 31 per cent. of the cars fall in this group.

The lowest percentage of the more costly cars among the fifty-seven cities is found in Greenville, S. C., where the figure is 20 per cent. Kansas City, Kan., has 21 per cent. and Omaha, Neb., 27 per cent.

Another city in which more than half of the cars are priced above $1,000 is Newark, N. J., where 51 per cent. are in this group.

The following table shows the percentages of passenger cars in the two price groups in operation in the leading cities of the country:

City	% under $1,000	% over $1,000
EAST		
Baltimore	64	36
Boston	53	47
Bridgeport, Conn.	53	47
Buffalo	61	39
Camden, N. J.	63	37
Hartford, Conn.	52	48
Manchester, N. H.	62	38
Newark	49	51
New York City:		
Bronx	39	61
Brooklyn	39	61
Manhattan	33	67
Queens	47	53
Richmond	53	47
Total N. Y. C.	40	60
Philadelphia	56	44
Pittsburgh	56	44
Portland, Me.	61	39
Providence	56	44
Scranton, Pa.	59	41
Wheeling, W. Va.	61	39
MIDDLE WEST		
Akron	70	30
Chicago	54	46
Cincinnati	65	35
Cleveland	61	39
Des Moines	72	28
Detroit	66	34
Fargo, N. D.	83	17
Indianapolis	69	31
Kansas City	79	21
Milwaukee	60	40
Minneapolis	66	34
Oklahoma City	72	28
Omaha	73	27
St. Paul	69	31
Sioux Falls, S. D.	70	30
Toledo	67	33
Wichita, Kan.	73	27
Youngstown, O.	65	35
SOUTH		
Atlanta	62	38
Birmingham	69	31
Charlotte, N. C.	73	27
Dallas	70	30
Greensboro, N. C.	73	27
Greenville, S. C.	80	20
Houston, Tex.	68	32
Jacksonville, Fla.	65	35
Louisville	72	28
Nashville	70	30
New Orleans	65	35
Richmond, Va.	53	47
St. Louis	68	32
Washington	61	39
Winston-Salem, N. C.	76	24
WEST		
Butte	59	41
Denver	70	30
Los Angeles	59	41
Portland, Ore.	67	33
Salt Lake City	67	33
San Francisco	48	52
Seattle	69	31
Spokane, Wash.	70	30
Tacoma, Wash.	72	28

BROCKWAY-INDIANA'S

Reputation Assures Their Structural Excellence

Dedicated to our policy of building motor trucks on sound engineering principles of basic design, yet permitting of a flexibility of construction whereby without price penalty trucks are exactly matched to the carefully analyzed haulage problems of any industry rather than trying to fit the problem to the limitations of the truck.

"Dollar For Dollar We Challenge Truck Buyers to Equal Brockway-Indiana Values."

BROCKWAY MOTOR TRUCK CORP.
General Offices:
Cortland - - - - New York

O'NEILL NEW MANAGER OF PACIFIC AUTOMOTIVE

San Francisco, Cal., July 30.—C. A. O'Neill has been appointed manager of Pacific Automotive Service, San Francisco, succeeding Howard F. Goepfert, transferred to Los Angeles as manager of Pacific Automotive Service.

Mr. O'Neill during the past seven years has been with the Bendix Aviation Corporation, the last three of which he has been their Pacific Coast district manager.

Final Revision, Complete New Commercial Car Registration Statistics, June, '31

Returns for today: Arizona, Colorado, Georgia, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Mississippi, Nevada, New Jersey, New Mexico, New York, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Vermont and Wyoming

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Some of this data has been published previously, but it is given here complete for the convenience of our subscribers. Readers desiring county, city or town lists, or lists in any given section, may obtain these by addressing any of these three companies.

In this table, 48 states and the District of Columbia. **Comparative figures for June, 1930, will be found on Page 7.** **Commercial car registrations do not include buses.**

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	International	La France-Republic	Mack	Reo	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Alabama			122		1		107	7	7								1				245	Alabama
Arizona		1	44		2		76	1	8					3	3			1			139	Arizona
Arkansas			33				27		4								1				65	Arkansas
California	10	1	479	9	102	14	1051	37	65	5	12	35	9	7	23		14	6		78	1957	California
Colorado			105		8		175	8	23			5			2		4	5		3	338	Colorado
Connecticut	6	1	136	4	25	15	208	11	32	1	9	16		1	11		3	7		14	500	Connecticut
Delaware	1		40				44		14		1	4						1			105	Delaware
Florida			160		7	7	304		14		1	6					5	1		1	506	Florida
Georgia	1		174		5		200	3	16			4					10				413	Georgia
Idaho			50		14		125	2	9		1	2					2	2		4	211	Idaho
Illinois	8	3	350	29	51	2	421	12	98		8	6	1	3	15			18		31	1056	Illinois
Indiana		6	175	2	24	2	183	21	47	2	7	4		4	8	1	1	10		10	507	Indiana
Iowa			265	2	31		220	6	78		1	17			14		2	13		2	651	Iowa
Kansas			207	1	17		171	2	67		1	3			11	1	1	10	1	4	497	Kansas
Kentucky	1	2	138	1	19		136	8	26			5			5		1	9		6	357	Kentucky
Louisiana			161	1	10		171	6	44			2				1		2		3	401	Louisiana
Maine	2	1	177	1	33		236	2	20		5	10	2		6		1	7	1	4	508	Maine
Maryland	14	6	162	8	20	2	190	11	50	1	7	15	2	1	9	1	9	1	1	13	523	Maryland
Mass'setts	30	10	272	10	77	9	640	31	72	4	31	34	5	3	17		24	4		16	1289	Mass'setts
Michigan	3		300	11	43	9	657	27	69	8	3	23			8		6	5		12	1184	Michigan
Minnesota			190	8	18	2	183	4	62	1		12			6		5	17		6	514	Minnesota
Mississippi			82		2	1	88	2	16		2	1					1				195	Mississippi
Missouri	1	4	423	3	44	6	421	37	61	1	3	9	5		6	5	5	10		30	1077	Missouri
Montana			44		4		67	1	18			1						1		3	139	Montana
Nebraska			128	1	15	3	130	4	41		4	4			4			8		5	347	Nebraska
Nevada			14		7		37	3	3			1			1					2	68	Nevada
New Hamp.	1	1	89	3	5	3	114	5	10		2	2	2	2	2			1			242	New Hamp.
New Jersey	10	10	404	17	72	16	634	37	73	2	34	30	5	10	9	1	20	13		42	1439	New Jersey
N. Mexico			66	1	9	1	55	2	14			1					1	1			151	N. Mexico
New York	37	55	684	38	184	11	1321	61	186	3	82	53	4	60	22	2	55	29	2	97	2986	New York
Nor. Carolina			195	2	18		179	12	25	3	1	2			3		3	3		2	448	North Car.
North Dakota			45		5		44	1	57		1	7			5	1		2		1	169	North Dak.
Ohio	5	8	339	2	51	8	489	23	95	5	24	22	1	9	26		28	17	1	55	1208	Ohio
Oklahoma		1	144		8	3	124	7	15			7					1	1	1	6	318	Oklahoma
Oregon			112		13	2	195	7	23		5	13	2		2		5			6	385	Oregon
Penn'vania	35	15	559	39	164	9	898	34	156	4	27	41	11	22	29	1	20	47	2	78	2191	Penn'vania
Rh. Island	3		51	2	18	3	98	14	12	2	4	4			2		1	3		5	222	Rhode Isl.
S. Carolina		1	104		9		86	2	4		2	1					2				211	S. Carolina
S. Dakota			52	1	5		43		30			2			5		1	4		1	144	S. Dakota
Tennessee			78		10	7	108	10	11		1	1	1		1		7	2			237	Tennessee
Texas		10	739	4	37	2	660	10	214		2	18			4	2	6	16	1	9	1734	Texas
Utah			52		11		80	8	12		1	3			3		2	1		2	175	Utah
Vermont			25	3	8		65	2	17		2	4			6			12		1	145	Vermont
Virginia	3	4	263	3	16	4	313	4	31	2	3	3			2		3	3		4	661	Virginia
Washington			48		7		104	5	10		1	8	2		4		7			12	208	Washington
West Virginia		4	114	6	18		137	2	25	1	1	10	1		4		1	10		5	343	W. Virginia
Wisconsin			310	26	25	3	267	4	72		2	14	4	7	10	1	1	20		16	782	Wisconsin
Wyoming			27		4		59		3						1		1			3	98	Wyoming
Dist. of Col.	8		38	1	8		106	14	10		2	2	2				6	1		3	201	Dist. of Col.
Totals, 1931	179	144	8969	239	1284	144	12447	510	2076	45	293	467	59	132	289	17	267	324	10	595	28490	Totals

HUDSON FACILITIES AT WASHINGTON EXPANDED

Washington, D. C., July 30.—The opening of new and larger sales and display headquarters on "automobile row" is announced by L. E. Lambert, president of the Lambert-Hudson Motors Company, distributor of Hudson and Essex cars. The new building is a three-story structure located at 14th and P Streets, N. W., and will be entirely given over to the display of new and reconditioned models.

The service department, under the direction of J. W. Sullivan, service manager, will be maintained at its former location, 24th and M Streets, N. W. H. S. Biscoe has been appointed general manager of the new facilities. Associated with him are W. M. Denham, retail sales manager, and W. K. Rogers.

NEW JERSEY PACKARD SALESMEN WIN TRIPS

Union City, N. J., July 30.—Alfred W. Fontana and William Perry Jr., are winners in the year-round competition among sales representatives of the Packard Motor Car Company in this country and abroad, to decide who shall attend the annual convention, to be held this year at Lucerne in Quebec, Canada. They are connected with the F. M. Mitchell Motor Company, Union City, and, with 123 other master salesmen, will be guests of Packard at the resort September 16-19.

Mr. Fontana, who lives in East Orange, has been a Packard salesman four years. Mr. Perry has captured the master salesman honor four times previously.

New Dealers Appointed

OKLAHOMA

Studebaker—Haston Motor Company, Enid.

OREGON

Hudson—Mammoth Garage, Lakeview.

Willys-Overland — Franks Service Station, Inc., Redmond; L. R. Chambers Station, Inc., Roseburg.

PENNSYLVANIA

Nash—Stryker-Begley Nash Company, Kingston; Hackenburg's Garage, Mifflinburg; F. T. Lowman, Blairsville; Sewickley Sales and Service, Sewickley.

Hudson—Lester R. McCrery, Oxford; Meisel Motor Company, St. Marys.

Willys-Overland—Guise & Raff Garage, Biglerville; James Street Garage, Harrisburg; Square Deal Garage, Hokendauqua; Harrold Motor Company, Greenburg; H. S. Bitner, Latrobe; C. I. Mincemoyer, Lewisburg; T. H. Quain, Montrose; Willys Motors Company, York.

Studebaker—M. C. Mains, Edgewood.

Graham-Paige — Murphy Motor Sales and Service, Carbondale; Kremer Garage and Supply Company, Crafton; Kapp Automobile Company, Lebanon; Clyde M. Stutzman, Shamokin.

TENNESSEE

Willys-Overland — Hodges Motor Company, Jefferson City; Gus Moore, Sweetwater; Brown Motor Company, Livingston.

TEXAS

Graham-Paige — Brazos Motor Company, Inc., Bryan.

MAGEE-ROSS MOTORS GETS REO IN ALBANY

Albany, N. Y., July 30.—Magee-Ross Motors, Inc., 1240 Broadway, is now distributor of Reo motor cars, speed wagons and trucks, the Reo factory organization has announced.

Elmer E. Ross, formerly president of Elmer E. Ross & Co. and for five years active in the automobile business in Albany, is president of the new company.

Harold J. Magee is general manager and treasurer. F. M. Hosler is a director of the new company, as is Alfred W. Hunter. Gus C. Miller will be retail sales manager and Edward W. Leaning will be Speed Wagon manager.

The service department will be under the supervision of Al Vigars, connected with Reo service in Albany for ten years, and the parts department will be under Ferris Hyserman, also known to Reo owners.

WISCONSIN

Nash—Plain Auto Sales Company, Plain; East Side Motor Sales and Service, Black River Falls.

Willys-Overland — Ambuehl Garage, Alma; Vergin Garage, Dallas; Triangle Motors, Kenosha; Mount Horeb Auto Company, Mount Horeb; Kristensen's Garage, Rhinelander; Walworth Garage, Walworth.

Hudson—Knowles Service Garage, Knowles; D. P. Spiegelberg, Brownsville.

Auburn—Westside Service Station, Stevens Point; Flambeau Garage and Electric Company, Phillips; Hermanson & James Company, East Troy; Roy Welch & Son, Oconomowoc.

LINK-BELT INCREASES SERVICE FACILITIES TO TIMING CHAIN JOBBERS

Indianapolis, July 30.—Link-Belt Company has increased the scope of its service to jobbers of Link-Belt timing chains by recently opening two warehouses, said Harry Reisser, manager of the replacement chain division of Link-Belt Company.

These two warehouses are operated in co-operation with Republic Gear Company and Thompson Products Company, and are located at Kansas City and New York city.

The Kansas City warehouse, located at 1739 McGee St., was opened there to give overnight service, on the products of these companies, to Middle Western jobbers located in the states of Arkansas, Kansas, Missouri, Nebraska, Oklahoma, Iowa and South Dakota.

Jobbers in Maine, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Delaware, Maryland, District of Columbia, North and South Carolina, Virginia, West Virginia and Georgia will be served from the warehouses, opened early in July, at 245 West 67th St., New York, N. Y.

These additional facilities for service, added to the national distribution of Link-Belt timing chains through jobbers located at strategic points throughout the country, will enable Link-Belt to give service to users of their timing chains, which are now standard equipment on fifty-four auto models, fifty-one trucks, fifteen buses, orty-five auto motors and sixteen marine motors. Additional service facilities will be added as needed, said Mr. Reisser.

WILLYS DEALER NAMED

Elizabeth, N. J., July 30.—The Dackerman Motor Company, 1040-42 Elizabeth Ave., has been appointed Willys dealer in this vicinity.

Maintenance costs are cut to the bone —reliability attains a new standard of comparison— where trucks and buses are equipped with Wisconsin Axles.

WISCONSIN AXLE CO.

Oshkosh Wisconsin

Complete, New Commercial Car Registration Statistics, June, 1930

This table is repeated for comparative purposes only. June, 1931, figues will be found on Page 6.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	International	La France	Mack	Reo	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Ala., 1930			121		5		195	5	3	2					2		11				344	Ala., 1930
Ariz., 1930	1		38		8		100	3	7			1			1		2	1		2	164	Ariz., 1930
Ark., 1930			81		1		70		9								3				164	Ark., 1930
Calif., 1930	7		554	7	96	14	1243	94	59	14	22	59	20	7	8	1	53	4	4	128	2394	Calif., 1930
Colorado, '30		2	148	1	6		222	13	15			2					5	10		6	430	Colorado, '30
Conn., 1930	12	10	137	6	40	3	183	21	18		28	28	1	12	7		5	2		22	535	Conn., 1930
Delaware, '30		1	33		1		50	2	3		3	2		1						1	97	Delaware, '30
Florida, 1930		2	95		4		218	3	8		3	6					2			2	343	Florida, 1930
Georgia, 1930		1	120		10	1	157	10	6		4						2				311	Ga., 1930
Idaho, 1930			81		5		97	2	20		1	2					2			5	215	Idaho, 1930
Illinois, 1930	1		442	58	45	4	590	28	110		9	18	2	1		6	8	5	2	56	1385	Illinois, 1930
Indiana, 1930		61	200	2	24	1	341	38	56			9		5	1	6	1	5		16	766	Indiana, '30
Iowa, 1930		3	299	2	33	4	356	18	100		8	21			2	2	1	15	2	11	877	Iowa, 1930
Kan., 1930		1	344	2	25		295	15	49			10		1	1	2	4		12	15	776	Kansas, '30
Kentucky, '30	3	2	151	1	13	1	208	12	28	1	6	10		1	3	1	3	4		23	471	Ky., 1930
Louisiana, '30			138		10	1	186	5	16		4	2					2				364	La., 1930
Maine, 1930	1		173	1	31		212	6	37		5	16					2	8			492	Maine, 1930
Maryland, '30	8	14	112	5	12	3	237	17	30	1	27	5		3	1	1	18	5		7	506	Md., 1930
Mass., 1930	31	29	237	11	68	15	710	58	79	6	36	43	11	11	4	3	28		3	28	1411	Mass., 1930
Mich., 1930	1	4	288	14	27	6	896	49	57	9	4	14	2	3		3	3	9		23	1412	Mich., 1930
Minn., 1930		3	238	23	22	2	376	7	69	1	2	7			1	3	2	13		12	781	Minn., 1930
Miss., 1930			229		6		276	5	17	1	8	2			2	1	4	1		3	555	Miss., 1930
Missouri, '30	4	5	306	12	25	2	429	26	33	2	10	5		2	2	4	13	6	1	18	905	Mo., 1930
Montana, '30			45		4		78	4	16			1			1	1	1			2	153	Mont., 1930
Nebraska		9	179		9		233	10	39		3	1			1	2	5	5	2	7	505	Neb., 1930
Nevada, 1930			5		5		27	1	2												40	Nevada, '30
New Hamp.		5	84	12	9	1	138	2	1		2	9	1	2				2		1	269	N. Hamp.,'30
N. Jersey, '30	20	44	355	26	64	19	713	50	39	2	50	35	15	8	7	4	20	3	5	49	1528	N. J., 1930
N. Mex., 1930		3	50		1		62	2	5			2						1		1	127	N. Mex., '30
New York, '30	18	192	521	34	131	6	1144	84	145	5	71	64	22	65	7	12	54	4	3	87	2669	N. Y., 1930
Nor. Car., '30			203	1	8		209	5	13			2					1	3		1	446	N. Car., '30
Nor. Dak.,'30			58		7		85	3	32			3			1	2		1	1	3	196	N. D., 1930
Ohio, 1930	26	9	346	2	59	12	780	67	92		16	40		18	4	17	40	12	2	82	1624	Ohio, 1930
Okla., 1930		4	268		17	5	331	8	81		10	5			2	2	6	7		9	755	Okla., 1930
Ore., 1930	2		93		7	9	180	13	15	1	2	4				1	7	1	1	14	350	Oregon, '30
Penna., 1930	34	45	556	22	123	32	1119	78	149	5	85	67	25	58	34	22	32	26	5	96	2613	Penna., '30
Rho. Isl., '30	6	4	39		5		74	13	9			8	3		3		1	1		6	172	R. Island, '30
S. Car., 1930			90		2		163	1	4		2	1								6	269	S. Car., 1930
S. Dakota,'30			57	1	4	2	60		45			8		1	2		1	8		6	195	S. D., 1930
Tenn., 1930		3	89		8	4	119	7	12		1	3					1				247	Tenn., 1930
Texas, 1930	1	3	1089	1	22	2	967	24	192		5	27			2	2	29	17	1	24	2408	Texas, 1930
Utah, 1930			72		10		136	5	9		2	2					1			8	245	Utah, 1930
Vermont, '30		8	49	1	7		83	3	9		3	6			1		3	2		2	177	Vermont, '30
Virginia, '30	1	2	296	1	18	3	322	13	33	3	5	2		2			13	5	3	5	727	Va., 1930
Wash., 1930			72		8		197	8	19			5	1				7			15	332	Wash., 1930
W. Va., 1930		3	112	2	14		189	20	39			5		1		2	5	3		7	402	W. Va., 1930
Wisconsin, '30		6	405	10	31	5	462	23	82		5	19	3	5	1	3	6	8		20	1094	Wis., 1930
Wyoming, '30			41		13	1	52	1	3		1					2	4	3			121	Wyo., 1930
D. of Col., '30	5	1	23	3	9		91	7	1		3	1	3				1			5	153	D. of C., '30
Totals, 1930	182	479	9762	261	1112	158	15661	889	1915	53	446	582	109	207	101	105	412	200	47	834	33515	Totals

Major Specifications and Mechanical Details of 1931 Commercial Cars

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Cam-shaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brakes	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Rear
*Am. La France Chief	2½	3650	Own	L	6	3¾x5	331.0	33.7	65@2100	G	G & O	Borg	Spic	Ross	Str	Vac	DR	Own	4	Tim	Wo	31.2	B4IMV	—	156	6200	32x6	32x6D
*Am. La France Chieftain	3-4	6725	Own	L	6	4½x6	411.0	40.8	85@1800	G	G & O	Borg	Spic	Ross	Zen	Vac	DR	Own	4	Tim	Wo	28.8	B4IMV	—	175	7200	36x8S	36x8D
Am. La France Big Chief	6	5500	Own	L	6	4½x5½	572	48.6	115@1600	—	—	—	Ross	Zen	Vac	DR	Own	4	Own	2 R	32.8	W4IA	—	226	10600	40x8S	40x8SD
Austin	—	400	475	Own	L	4	2.2x3	45.6	7.8	13@3000	G	Hex	Rock	Spic	Own	Til	Gra	Aut	W-G	3	Sal	Sp	5.25	O4M	76.5	75	1210	3.75x18	3.75x18
Autocar A	1¼-2	3200	Own	L	6	4 x4½	358.0	38.4	82@2400	G	Per	Long	Spic	Ross	Str	Vac	DR	Br-L	4	Own	Sp	27.9	LO4ID	460	150	5060	34x7	34x7
Autocar B	2-2½	3500	Own	L	6	4 x4½	358.0	38.4	82@2400	G	Per	Long	Spic	Ross	Str	Vac	DR	Br-L	4	Own	2 R	33.5	LO4ID	460	150	5300	34x7	34x7D
†Autocar SH	2½-3	4300	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	44.0	O2IM	328	114	6770	34x7	34x7D
Autocar SCH	2½-3	4300	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	44.0	O2IM	328	114	6770	34x7	34x7D
†Autocar H	3	4100	Own	L	4	4½x5½	350.0	32.4	45@1450	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	54.3	O2IM	328	114	6770	34x7	40x8D
†Autocar HS	3½	4600	Own	L	4	4½x5½	350.0	32.4	45@1450	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	54.3	O2IM	516	114	7900	40x8	40x8D
†Autocar HS	3-3½	4800	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	54.3	O2IM	516	114	7900	40x8	40x8D
†Autocar SHS	3-3½	4800	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	54.3	O2IM	516	157	8180	40x8	40x8D
Autocar SCHS	3-3½	4600	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	41.2	OL4IH	574	174	7990	36x8	36x8D
Autocar N	3-3½	5350	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	51.7	LO4ID	602	192	8900	36x8	36x8D
Autocar TEA	3½-5	6100	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	12	Own	2 R	101.1	LO4ID	602	192	9300	38x9	38x9D
Autocar TFA	3½-5	5500	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	12	Own	2 R	101.3	LO4ID	602	192	9500	42x9	42x9D
Autocar C	7½	6000	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Br-L	Spic	Ross	Str	Vac	DR	Own	4	Own	2R	51.7	O2IM	516	172	9500	42x9	40x8SD
Autocar CE	7½	6800	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Br-L	Spic	Ross	Str	Vac	DR	Own	4	Own	2R	51.7	LO4IV	670	172	10500	36x7S	40x8SD
Autocar F	10	9000	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Br-L	Spic	Ross	Str	Vac	DR	Br-L	7	Tim	Wo	94.0	LT4DV	674	173	11000	36x7S	36x8D
*Autocar G	10	9000	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Br-L	Spic	Ross	Str	Vac	DR	Br-L	7	Tim	Wo	100.0	T6IA	720	171	13000	36x8	36x8
Brockway 60	*6000	995	Con	L	6	3¾x4	214.7	27.3	61@3000	C	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	3	Col	Sp	19.8	B4IM	297	132	*3200	30x5	30x5
Brockway 65	6500	1195	Con	L	6	3¾x4¾	248.2	27.3	65@2700	C	G & O	Borg	Spic	Ross	Zen	Vac	Aut	Br-L	3	Col	Sp	21.3	C4IM	244	137	3400	30x5	32x6
Brockway 75	7500	1290	Con	L	6	3¾x4¾	248.2	27.3	65@2700	C	G & O	Borg	Spic	Ross	Zen	Vac	Aut	Br-L	4	Col	Sp	25.6	C4IM	244	137	3450	32x6	32x6
Brockway 90	9000	1525	Con	L	6	3¾x4¾	248.2	27.3	65@2700	C	G & O	Borg	Spic	Ross	Zen	Vac	Aut	Br-L	4	Col	Sp	20.9	C4IM	292	149	4050	32x6	32x6
Brockway 90	9000	1525	Con	H	6	4 x4½	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Tim	Sp	31.3	L4IH	353	156	5500	32x6	32x6D
Brockway 120	12000	1990	Con	H	6	4 x4½	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	35.3	L4IHV	356	156	5500	32x6	32x6D
Brockway 120	12000	2495	Con	H	6	4 x4½	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	46.2	L4IHV	380	170	6800	32x6	32x6D
Brockway 140	14000	2935	Con	H	6	4 x4½	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	46.6	L4IHV	380	170	7200	34x7	34x7D
Brockway 144	17000	3160	Con	H	6	4¼x4¾	380.9	40.8	89@2400	C	G & O	—	Spic	Ross	Zen	P	Aut	—	5	Wis	2 R	45.3	L4IHV	471	170	7500	34x7	34x7D
Brockway 170	17000	3660	Con	H	6	4¾x4¾	427.5	45.9	100@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	49.5	T2IMV	471	168½	7625	34x7	34x7D
Brockway 175	17500	3320	Con	H	6	4¼x4¾	380.9	40.8	89@2400	C	Long	Borg	Spic	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	78.6	L4IHV	546	170	8200	36x8	36x8D
Brockway 195	19500	4185	Con	H	6	4¼x4¾	380.9	40.8	89@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	50.7	LT4IVA	664	182	10000	40x8	40x8D
Brockway 190	19000	4560	Con	H	6	4¾x4¾	427.5	45.9	100@2400	C	Long	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Tim	Wo	63.7	T4IA	676	182	10750	38x7P	40x14S
Brockway 220	22000	4560	Con	H	6	4¾x4¾	427.5	45.9	100@2400	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br-L	7	Tim	Wo	95.0	T4IA	864	212	14000	38x7P	36x10S
Brockway 250	25000	5950	Con	L	6	4¾x5¾	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br-L	7	Tim	Wo	90.9	T4IA					
Brockway 280	30000	7250	Con	L	6	4¾x5¾	611.4	54.1	116@1800	C	Long	Br-L																
*Brockway 340	40000	9700	Con	L	6	4¾x5¾	611.4	54.1	116@1800	C																		
Chevrolet	½	355	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	3	Own	Sp	13.6	O4IM	101	109	*1880	19x4.75	19x4.75
Chevrolet	1½	590	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	O4IM	170	157	3015	30x5	30x5D
Chevrolet	1½	520	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	——	—	131	2700	30x5	32x6
Commerce Series S 11	1	1600	Bud	L	6	3⅛x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Col	Sp	25.5	L4IH	297	142	3900	30x5P	30x5P
Commerce Series S 11	1½	1900	Bud	L	6	3⅛x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4300	30x5P	30x5DP
Commerce Series 40	1½	2990	Bud	L	6	3⅛x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	4700	34x5P	34x5DP
Commerce Series S 11	2	2030	Bud	L	6	3⅛x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4500	32x6	32x6D
Commerce Series 40	2	3240	Bud	L	6	3⅛x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	4900	32x6	36x6D
Commerce Series 40	2½	3240	Bud	L	6	3⅛x5	309.6	31.5	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	5100	36x6P	36x6D
Commerce Series 40	2½	4580	Bud	L	6	4¼x5½	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	63.0	L4IH	584	175	7000	36x6P	38x7D
Commerce Series 60	2½	4580	Bud	L	6	4¼x5½	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	63.0	L4IH	584	175	7100	36x6P	38x7D
Commerce Series 60	3	4680	Bud	L	6	4¼x5½	410.9	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	8200	36x6S	36x6S
Commerce Series 80	3½	5250	Bud	L	6	4¼x5½	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	8400	36x6S	36x14S
Commerce Series 80	4	5330	Bud	L	6	4¼x5½	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	9600	36x6S	40x14S
Commerce Series 100	5	5830	Bud	L	6	4¼x5½	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	95.0	——					
Day Elder 60	1	1095	Con	L	6	3¾x4	214.7	27.3	61@3000	C	G & O	Borg	Spic	Ross	Zen	P	DR	W-G	4	Tim	Sp	36.3	B4IM	241	135	*3200	20x6.00B	20x6.50B
Day Elder 85	1½	1645	Con	L	6	3¾x4½	248.2	27.3	65@2700	C	Per	Borg	Spic	Ross	Zen	P	DR	W-G	4	Tim	Sp	42.3	L4IH	229	135	3750	20x6.00B	20x6.50DB
Day Elder 110	2	2095	Con	L	6	3¾x4½	248.2	27.3	65@2700	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Sp	44.9	L4IH	306	156	4600	20x7.00B	20x7.00DB
Day Elder 140	2½	2895	Con	H	6	4 x4½	311.0	38.4	73@2400	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Sp	40.7	L4IH	354	157	6400	20x7.50B	20x7.50DB
Day Elder 150	3	3695	Con	H	6	4 x4½	339.3	38.4	82@2400	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Wo	36.1	L4IH	398	156	6600	20x7.50B	20x9.00DB
Day Elder 150	3	3695	Con	H	6	4 x4½	339.3	38.4	82@2400	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Wo	43.5	L4IHV	489	156	7400	20x9.00B	38x9P
Day Elder 175	3	3695	Con	H	6	4 x4½	339.3	38.4	82@2400	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Wo	50.8	L4IHV	520	162	9300	38x9P	38x9DP
Day Elder 200	4	4295	Con	H	6	4¾x4¾	427.5	45.9	100@2600	C	Per	Br-L	Blo	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	71.2	L6IHV	674	164	12000	20x8.25B	20x8.25DB
Day Elder 240	5	5500	Con	H	6	4¾x4¾	427.5	45.9	100@2600	C	Per	Br-L	Blo	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	79.9	W6IA	400	164	12500	20x9.00B	20x9.00DB
Day Elder 285	8	6000	Con	H	6	4¾x4¾	427.5	45.9	100@2600	C	Per	Br-L	Blo	Ross	Zen	P	DR	Br-L	7	Tim	Wo	84.6	W6IA	490	164	14000	20x9.75B	20x9.75DB
*Day Elder 345	10	7500	Con	L	6	4¾x5½	611.4	54.2	127@2300	G	Per	Br-L	Blo	Ross	Zen	P	DR	Br-L	7	Tim	Wo	84.6	W6IA	490	164	14000	20x9.75B	20x9.75DB
*Day Elder 402	12	9000	Con	L	6	4¾x5½	611.4	54.2	127@2300	G																		
Diamond T 216	1½	695	Her	L	6	3⅜x4¼	228.0	27.3	56@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	——	L4IH	252	135¼	3130	20x6.50B	20x6.50B
Diamond T 291	1½-2	1325	Her	L	6	3½x4½	268.0	29.4	60@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	Cov	4	Cla	Sp	——	L4IH	279	156¼	4500	20x6.50B	20x6.50DB
Diamond T 303	2-2½	1585	Her	L	6	3⅜x4½	298.0	33.7	67@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Cla	Sp	——	L4IHV	350	159¾	5000	20x7.00B	20x7.00DB
Diamond T 353	2½-3	2050	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Tim	Sp	——	L4IHV	403	168	5600	20x7.50B	20x7.50DB
Diamond T 551	3	2375	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	L4IHV	403	176½	6400	20x8.25B	20x8.25DB
Diamond T 501	3	2675	Her	L	6	4¼x4½	383.0	43.3	85@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	L4IHV	403	184	6400	20x8.25B	20x8.25DB
Diamond T 596	3-4	2975	Her	L	6	4¾x4¾	428.4	45.9	94@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	L4IHV	499	169	7500	20x9.00B	20x9.00DB
Diamond T 603	3-4	3075	Her	L	6	4¾x4¾	453.0	48.6	100@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	L4IHV	499	187½	7500	20x9.00B	20x9.00DB
Diamond T 606	4-5	4100	Her	L	6	4¾x5½	529.0	51.3	——	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	W41	552	178	8300	22x9.75B	22x9.75DB
Diamond T 750	4	4140	Her	L	6	4¾x4¾	428.4	45.9	94@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	L6IHV	571	189½	8300	36x8P	36x8DP
*Diamond T 801	6	5600	Her	L	6	4½x4¾	453.3	48.6	100@2200	G	G & O	Cov	Spic-Blo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	T4IA	238	190	11000	34x7P	34x7DP
*Diamond T 1200	8	6220	Her	L	6	4½x4¾	479.0	51.3	104@2400	G	G & O	Cov	Spic-Blo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	T4IA	238	190*	11700	36x8P	36x8DP
*Diamond T 1600	8	6220	Her	L	6	4½x4¾	479.0	51.3	104@2400	G	G & O	Cov	Spic-Blo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	T4IA	238	194	12500	36x8P	36x8D?
*Diamond T 1601	8	7500	Wak	L	6	5 x5¼	677.4	60.0	127@2000	G																		
Dodge Bros. LF 10	½	435	Own	L	4	3⅜x4¼	196.0	21.0	48@2800	G	Fed	Borg	Own	W-G	Car	P	DR	Own	3	Own	Sp	14.2	L4IH	114	109	*2050	19x5.00	19x5.00
Dodge Bros. F 10	½	515	Own	L	6	3½x4½	211.5	25.3	66@3200	G	Fed	Borg	Un	W-G	Car	P	DR	Own	3	Own	Sp	14.2	L4IH	114	109	2100	19x5.25	19x5.25
Dodge Bros. U 1	¾	490	Own	L	4	3⅜x4¼	196.0	21.0	45@2800	G	Fed	Borg	Spic	Han	Car	Vac	NE	Own	3	Own	Sp	21.6	L4IH	189	124	2260	20x6.00	20x6.00
Dodge Bros. DA 1	¾	595	Own	L	4	3⅜x4¼	196.0	21.0	45@2800	G	Fed	Borg	Spic	Han	Zen	Vac	NE	Own	4	Own	Sp	36.8	L4IH	189	124	2360	20x6.00	32x6
Dodge Bros.	1	495	Own	L	4	3⅜x4¼	196.0	21.0	45@2800	G	Fed	Borg	Spic	Han	Zen	Vac	NE	Own	3	Own	Sp	36.1	L4IH	205	133	2590	20x6.00	32x6
Dodge Bros.	1	595	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	G	Fed	Borg	Spic	Han	Car	Vac	NE	Own	3	Own	Sp	33.4	L4IH	205	133	2690	20x6.00	32x6
Dodge Bros.	1	595	Own	L	4	3⅜x4¼	196.0	21.0	45@2800	G	Fed	Borg	Spic	Han	Zen	Vac	NE	Own	3	Own	Sp	33.4	L4IH	205	136	2750	20x6.00	32x6
Dodge Bros.	1	595	Own	L	4	3⅜x3⅞	208.0	27.3	63@3200	G	Fed	Borg	Cle	W-G	Car	P	DR	Own	4	Own	Sp	37.1	L4IH	120	136	2800	20x6.00	32x6
Dodge Bros. UF 30	1½	595	Own	L	4	3⅜x4¼	196.0	21.0	48@2800	G	Fed	Borg	Cle	W-G	Car	P	DR	Own		Own	Sp	32.1	L4IH	229	165	2925	20x6.00	32x6
Dodge Bros. UF 31	1½	670	Own	L	6	3⅜x4¼	211.5	25.3	66@3200	G	Fed	Borg	Cle	W-G	Car	P	DR	Own		Own	Sp	32.1	L4IH	229	165	2975	20x6.00	32x6
Dodge Bros. F 31	1½	770	Own	L	6	3⅜x4¼	211.5	25.3	66@3200	G	Fed	Borg	Cle	W-G	Car	P	DR	Own	4	Own	Sp	37.1	L4IH	120	136	2800	20x6.00	32x6
Dodge Bros. F 30	1½	695	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	G	Long	Borg	Cle	Han	Zen	P	DR	Own	4	Own	Sp	41.4	L4IH	311	140	3975	20x6.00	20x6.00D
Dodge Bros. F 35	1½	1425	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	G	Long	Borg	Cle	Han	Zen	P	DR	Own	4	Own	Sp	41.4	L4IH	311	165	4175	20x6.00	20x6.00D
Dodge Bros. F 36	1½	1485	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	L4IH	350	150	5425	20x6.50	20x6.50D
*Dodge Bros. F 40	2	1995	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	L4IH	350	165	5465	20x6.50	20x6.50D
*Dodge Bros. F 41	2	2085	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	L4IH	382	135	4235	32x6	32x6D
*Dodge Bros. F 44	2	2085	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	46.3	L4IH	382	165	4520	32x6	32x6D
Dodge Bros.	3	1515	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	41.4	L4IH	382	185	4715	32x6	32x6D
Dodge Bros.	3	1565	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	46.3	L4IH	382	185	4715	32x6	32x6D
Dodge Bros.	3	1615	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.8	L4IH	416	146	5835	32x6	32x6D
Dodge Bros. F 60	3	2645	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.8	L4IH	416	170	6075	32x6	32x6D
*Dodge Bros. F 61	3	2575	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.8	L4IH	416	195	6190	32x6	
*Dodge Bros. F 62	3	2695	Own	L	6	3⅝x5	309.6	31.5	96@3000	G																		
Essex Com.	¾	445	Own	L	6	2⅞x4½	163.0	13.2	55@3300	C	Har	Own	Spic	Gem	Mar	Vac	Aut	Own	3	Own	Sp	—	4M	..	110	*2125	20x5	20x5.50
Federal D	1½	795	Con	L	6	3⅞x4½	200.5	24.0	48@2500	C	Long	Borg	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L4IH	377	131	*3280	20x6.00	32x6
Federal E 6	1½	895	Con	L	6	3⅜x4	215.0	27.3	63@2600	C	Long	Borg	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	36.3	L4IH	377	132	3330	20x6.00	32x6
Federal F	1¾	1525	Con	L	6	3⅜x4⅝	248.0	27.3	64@2500	C	Long	Borg	Spic	Gem	Zen	P	DR	Own	4	Tim	Sp	29.2	L4IH	414	132	3810	30x5	30x5D
Federal A G	2	1855	Con	L	6	3⅜x4⅝	248.0	27.3	64@2500	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Cla	Sp	38.5	L4IH	450	151	4635	32x6	32x6D
Federal A G T	2½	2185	Con	L	6	3⅜x4⅝	248.0	27.3	64@2500	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Sp	47.1	L4IHV	659	151	5185	32x6	32x6D
Federal A G T W	2½	2360	Con	L	6	3⅜x4⅝	248.0	27.3	64@2500	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Wo	52.8	L4IHV	659	151	5185	32x6	32x6D
*Federal D S W	2½-3	1050	Con	L	4	3⅞x4¼	200.5	24.0	48@2500	C	Long	Borg	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	140	3980	20x6.00	32x6
*Federal E 6 S W	2½-3	1150	Con	L	6	3⅜x4	215.0	27.3	60@2600	C	Long	Borg	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	145	4030	20x6.00	32x6
Federal T 10 B	2½-3	2740	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Sp	44.5	L4IHV	659	165	6645	34x7	34x7D
Federal T 10 W	2½-3	2915	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Wo	44.0	L4IHV	659	165	6645	34x7	34x7D
Federal T 10 D R	2½-3	2915	Con	H	6	4 x4½	339.0	38.4	85@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Wo	64.6	L4IHV	676	165	7315	34x7	34x7D
Federal U 6	3-3½	3860	Con	H	6	4 x4½	339.0	38.4	85@2200	C	Long	Borg	Pet	Ross	Str	P	DR	Br-L	7	Tim	2 R	69.6	L4IHV	767	165	7315	34x7	34x7D
Federal U 6 D R	3-3½	3860	Con	H	6	4 x4½	339.0	38.4	85@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	Wo

Major Specifications and Mechanical Details of 1931 Commercial Cars

(CONTINUED FROM PAGE EIGHT)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brakes	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Rear
General Motors T 42	*15000	1845	Buick	H	6	3 7/8x4 5/8	257.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Eat	Sp	33.4	B4IM	524	141	4725	32x6P	32x6DP
General Motors T-44	*16000	1935	Buick	H	6	3 7/8x4 5/8	257.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Eat	2 R	40.9	B4IM	524	141	5005	32x6P	32x6DP
General Motors T-45	*16000	1990	Own	H	6	3 7/8x4 5/8	257.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Eat	2 R	50.7	B4IM	524	141	5050	32x6P	32x6DP
General Motors T-51	*19000	2565	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Eat	Sp	40 6	B4IM	574	155	5955	34x7P	34x7DP
General Motors T-55	*19000	2690	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Eat	2 R	49.8	B4IM	574	155	6095	34x7P	34x7DP
General Motors T-60	*22000	3035	Buick	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Tim	Wo	52.5	B4IMV	685	154	6965	20x9.00B	20x9.00DB
General Motors T-61	*22000	3445	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Str	P	DR	Mun	12	Tim	Wo	142.5	B4IM	793	155	7500	20x9.00B	20x9.00DB
General Motors T-82	*24000	3795	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Pet	Sag	Str	P	DR	Mun	12	Tim	Wo	142.5	B4IM	865	155	7670	20x9.00B	20x9.00DB
General Motors T-83	*24000	3990	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Str	P	Dr	Mun	12	Tim	Wo	142.5	B4IMV	865	155	7670	20x9.00B	20x9.00DB
General Motors T-85	*26000	5600	Own	H	6	4 1/4x5 1/2	468.0	43.3	115@2200	C	Long	Own	Spic	Sag	Str	P	DR	Ful	4	Tim	2 R	53.3	B4IMV	865	171	10630	20x9.75B	20x9.75DB
†General Motors T-90	*28000	5285	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Pet	Sag	Str	P	DR	Mun	12	Tim	Wo	129.0	BrIA	868	185	9400	20x7.50B	20x7.50DB
†General Motors T-95	*34000	7245	Own	H	6	4 1/4x5 1/2	468.0	43.3	115@2200	C	Long	Own	Spic	Sag	Str	P	DR	Ful	4	Tim	Wo	53.3	B6IA	1191	189	13250	34x7P	34x7DP
†General Motors T-96	*34000	7193	Own	H	6	4 1/4x5 1/2	468.0	43.3	115@2200	C	Long	Own	Spic	Sag	Str	P	DR	Ful	4	Tim	2 R	51.1	B6IA	1191	189	12850	34x7P	34x7DP
Gramm A X 4	1	795	Con	L	4	3 7/8x4	200.4	24.0	50@2800	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	*3300	20x6.00	20x6.50
Gramm A X 6	1	895	Con	L	6	3 3/8x4	214.0	27.3	61@3000	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	3550	20x6.00	20x6.50
Gramm B X 4	1½	895	Con	L	4	3 7/8x4 1/4	200.4	24.0	50@2800	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	3475	20x6.00	20x6.00D
Gramm B X 6	1½	995	Con	L	6	3 3/8x4	214.7	27.3	61@3000	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	3725	20x6.00	20x6.00D
Gramm B	1¾	1495	Lyc	L	6	3 1/4x4 1/2	224.0	25.3	61@2900	G	Per	Own	Blo	Ross	Zen	Vac	Aut	Cov	4	Tim	Sp	54.3	L4IH	378	140	4150	20x6.50	20x6.50D
†Gramm C X 4	2	1095	Con	L	4	4 1/8x4 1/4	227.0	27.2	55@2800	G	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	37.0	L4IH	452	131	3900	20x6.50	20x6.50D
Gramm 16	2	1095	Knight	S	6	2 1/2x4 3/8	177.9	20.7	53@2600	C	Own	Borg	Blo	Ross	Til	Vac	Aut	Cov	4	Eat	Sp	—	——	—	151	——	30x5	32x6
Gramm C X 6	2	1295	Con	L	6	3 3/8x4 3/8	248.2	27.3	70@3000	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	37.0	L4IH	452	131	4100	20x6.50	20x6.50D
Gramm 21	2½	1295	Knight	S	6	3 3/8x4 3/8	255.	27.3	70@2600	C	Own	Jon	Blo	Ross	Til	Vac	Aut	Cov	4	—	—	—	——	—	164	——	32x6	34x7
Gramm C	2	1795	Lyc	L	6	3 3/8x4 1/2	278.6	31.5	82@2600	G	Per	Own	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	31.0	L4IH	353	160	4800	20x7.00	20x7.00D
Gramm D	2½	1995	Lyc	L	6	3 3/4x4 1/2	298.0	33.7	90@2200	G	Per	Jon	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	33.0	L4IHV	339	160	5200	20x7.50	20x7.50D
Gramm 75	3	2395	Knight	S	6	3 3/4x4 3/8	255.	27.3	70@2600	C	Own	Jon	Blo	Ross	Til	Vac	Aut	Cov	4	Wis	2R	—	——	—	190	——	20x7.50	20x7.50D
Gramm E	3	2595	Lyc	L	6	3 7/8x5	353.8	38.0	90@2200	G	Per	Own	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	35.0	L4IHV	659	160	5950	20x8.25	20x8.25D
Gramm E Y	3	3595	Con	H	6	4 1/8x4 3/4	380.6	40.8	80@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	30.0	L4IHA	—	190	7200	20x7.50	20x7.50D
Gramm G Y	4	4345	Con	H	6	4 3/8x4 3/4	428.4	45.9	100@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Cov	4	Wis	2 R	28 0	BW4IM	—	210	7700	20x8.25	20x8.25D
Gramm G W	4	5175	Con	H	6	4 3/8x4 3/4	428.0	45.9	100@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Ful	4	Wis	2 R	—	4IA	864	157	9500	20x9.00	20x9.00D
Gramm H Y	5	6545	Con	L	6	4 3/4x5 3/4	611.4	54.1	127@2300	G	Per	Ful	Blo	Ross	Zen	P	Aut	Ful	4	Wis	2 R	25.2	4IA	—	236	10100	36x8	36x8D
Indiana 60	*6000	995	Con	L	6	3 3/8x4	214.7	27.3	61@3000	C	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	3	Col	Sp	19.8	B4IM	297	132	*3200	30x5	30x5
Indiana 64	6500	1195	Con	L	6	3 3/8x4 5/8	248.2	27.3	65@2700	C	Long	Borg	Spic	Ross	Str	Vac	Aut	Br-L	3	Col	Sp	21.3	C4IM	244	137	3400	30x5	30x5
Indiana 74	7500	1295	Con	L	6	3 3/8x4 5/8	248.2	27.3	65@2700	C	Long	Borg	Spic	Ross	Str	Vac	Aut	Br-L	4	Col	Sp	25.6	C4IM	190	137	3450	32x6	32x6
Indiana 89	9000	1525	Con	L	6	3 3/8x4 5/8	248.2	27.3	65@2700	C	Long	Borg	Spic	Ross	Str	Vac	Aut	Br-L	4	Col	Sp	20.9	C4IM	292	149	4050	32x6	32x6
Indiana 111 XW	12500	1850	Her	L	4	4 x5	251.3	25.6	46@2000	G	Mc C	Borg	Spic	Ross	Str	Vac	Aut	Br-L	4	Wis	2 R	35.2	K2IM	270	120	3740	32x6	32x6D
Indiana 120	12000	1950	Con	H	6	4 x4 1/8	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Sp	31.3	L4IH	353	156	5200	32x6	32x6D
Indiana 140	14000	2495	Con	H	6	4 x4 1/8	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	35.3	54IHV	356	156	7500	32x6	32x6D
Indiana 141	17000	2935	Con	H	6	4 x4 1/8	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	46.2	L4IHV	380	170	6200	32x6	32x6D
Indiana 170	17000	3160	Con	H	6	4 1/8x4 3/4	380.9	40.8	89@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	46.6	L4IHV	380	170	6800	32x6	32x6D
Indiana 175	17500	3660	Con	H	6	4 3/8x4 3/4	427.5	45.9	100@2400	C	G & O	——	Spic	Ross	Str	P	Aut	——	5	Wis	2 R	45.3	L4IHV	380	170	7200	34x7	34x7D
Indiana 195	19500	3820	Con	H	6	4 1/8x4 3/4	380.9	40.8	89@2400	C	G & O	Br-I	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	49.5	L4IHV	471	170	7500	34x7	34x7D
Indiana 190	13000	4185	Con	H	6	4 1/8x4 3/4	380.9	40.8	89@2400	C	Long	Borg	Spic	Ross	Str	P	Aut	Br-L	7	Tim	Wo	78.6	T2IMV	500	168½	7625	34x7	34x7D
Indiana 220	22000	4560	Con	H	6	4 3/8x4 3/4	427.5	45.9	100@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	50.7	L4IHV	546	170	8200	36x8	36x8D
Indiana 250	25000	5950	Con	H	6	4 3/8x4 3/4	427.5	45.9	100@2400	C	Long	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Wo	63.7	LT4IHV	664	182	10000	40x8	40x8D
Indiana 290	30000	7250	Con	L	6	4 3/4x5 3/4	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br-L	7	Tim	Wo	95.6	T4IA	676	182	10750	38x7P	40x14S
*Indiana 640	40000	9700	Con	L	6	4 3/4x5 3/4	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br-L	7	Tim	Wo	90.9	T4IA	864	212	14000	38x7P	36x16S
International A 2	1½	675	Wak	L	4	3 5/8x4 1/2	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	39.5	BE4IM	212	136	*2935	5.50x20	6.00x20
International B 2	1½	725	Wak	L	4	3 5/8x4 1/2	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	Mec	3	Own	Sp	47.3	BE4IM	212	136	2960	5.50x20	6.00x20
International A L 3	1½	1450	Lyc	L	6	3 1/4x4 1/2	224.0	25.3	52@2700	G	Mod	Own	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	42.9	B4IM	295	138	4032	20x6.00	20x6.00D
International A 4	2	1860	Own	H	6	3 3/8x4 1/2	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	47.8	BE4IM	378	145	5221	32x6	32x6D
International A 5	3	2550	Own	H	6	3 3/8x4 1/2	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	52.6	BE4IM	430	156	5895	34x7	34x7D
International A 6	3	2675	Own	H	6	3 3/8x4 1/2	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	62.5	BE4IM	430	156	6120	34x7	34x7D
International W 1	2½	3850	Hall	H	4	4 1/4x5 1/2	312.0	28.9	59@2000	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	2 R	60.5	BE4IM	710	148	8300	36x5S	36x8S
International W 3	3½	4850	Hall	H	4	4 3/4x5 1/2	390.0	36.1	69@2000	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	2 R	70.5	BE4IM	794	160	10125	36x6S	40x12S
La France Rep. A 1	6000	795	Lyc	L	6	3 x4 3/4	201.5	21.5	60@2500	G	G & O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	36.1	L4IH	378	132	3000	20x5.50	32x6
La France Rep. C 1	7500	1295	Lyc	L	6	3 1/8x4 1/2	224.0	25.4	61@2750	G	G & O	Eorg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	29.1	L4IH	413	144	3300	20x6.00	32x6
La France Rep. D 1	9000	1595	Lyc	L	6	3 1/8x4 1/2	224.0	25.4	61@2750	G	G & O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	37.9	L4IH	448	144	3725	30x5	30x5D
La France Rep. F-3	13000	2395	Lyc	L	6	3 3/4x4 1/2	299.0	33.7	80@2500	G	Per	Ful	Spic	Han	Zen	P	Aut	Ful	4	Tim	Sp	40.1	L4IHV	628	174	5520	34x7	34x7
La France Rep. H 2	16000	2985	Lyc	L	6	3 7/8x5	354.0	36.0	85@2300	G	Per	Ful	Spic	Han	Zen	P	Aut	Ful	4	Wis	2 R	41.6	L4IHV	658	174	6370	34x7	34x7D
La France Rep. M 2	20000	4000	Wak	L	6	4 3/8x5 1/2	462.0	46.0	97@2000	G	Per	Ful	Spic	Han	Zen	P	Aut	Ful	5	Wis	2 R	48.1	L4IHV	768	174	7500	36x8	36x8D
La France Rep. 35-2	24000	5600	Wak	L	6	4 1/2x5 3/4	549.0	48.6	98@1850	G	Own	Ful	Spic	Han	Zen	P	Aut	Ful	4	Wis	2 R	45.4	L4IHV	870	174	9250	38x9	38x9D
Maccar 36 A	1½	1900	Bud	L	6	3 3/4x4 1/2	298.0	33.7	83@2800	G	Per	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Tim	Sp	30.6	L4IH	315	171	4850	32x6	32x6D
Maccar 40 A	2	2400	Bud	L	6	3 3/4x4 1/2	298.0	33.7	83@2800	G	Per	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Tim	Sp	38.8	L4IHV	325	171	5340	32x6	32x6D
Maccar 56	3	3350	Bud	L	6	3 3/4x5	311.0	33.7	72&2100	G	Per	Br-L	Spic	Ross	Str	Vac	DR	Br-L	4	Wis	2 R	37.4	L4IHV	411	183	6200	34x7	34x7D
Maccar 60	3	3950	Bud	L	6	4 1/8x5 1/8	411.0	40.8	103@2100	G	Per	Br-L	Spic	Ross	Str	Vac	DR	Br-L	4	Tim	Wo	34.3	L4IHV	411	183	6600	20x9.00	20x9.00D
Maccar 66 A	4	5500	Her	L	6	4 5/8x4 3/4	479.0	51.3	106@2100	G	Per	Br-L	Spic	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	64.5	W4IA	617.5	206	8200	20x9.75	20x9.75D
Maccar 86 A	5	5950	Her	L	6	4 5/8x4 3/4	479.0	51.3	106@2100	G	Per	Br-L	Spic	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	72.3	W4IA	623	206	9500	20x10.50	20x10.50D
†Maccar SW-86	10	7650	Her	L	6	4 5/8x4 3/4	479.0	51.3	106@2100	G	Per	Br-L	Spic	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	72.3	T6IA	103	206	11700	20x9.75	20x9.75D
††Mack B L	——	2500	Own	L	6	3 1/4x5	248.9	28.3	63@2800	G	Own	Own	Spic	Gem	Str	Vac	NE	Own	4	Tim	Sp	Opt	L4IH	302	148	*4450	20x6.00B	20x6.00DB
††Mack B G	——	3000	Own	L	6	3 5/8x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Sp	Opt	O4IV	415	156	5200	32x6	32x6D
††Mack A B	——	4350	Own	L	4	4 1/4x5	283.7	28.9	60@2200	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O4IV	471	146½	7100	34x7	34x7D
Mack A B	——	4000	Own	L	4	4 1/4x5	283.7	28.9	60@2200	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	471	146½	6850	34x7	34x7D
Mack A B	——	4500	Own	L	6	3 5/8x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O4IV	471	146½	7050	34x7	34x7D
††Mack A B	——	4150	Own	L	6	3 5/8x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	471	146½	6850	34x7	34x7D
††Mack B C	——	5250	Own	L	6	4 x5 1/2	417.7	38.4	100@2300	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	2 R	Opt	O4IV	471	154	8350	36x8	36x8D
††Mack B C	——	5500	Own	L	6	4 x5 1/2	417.7	38.4	100@2300	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	610	154	8500	36x8	36x8D
††Mack B J	——	6150	Own	L	6	4 1/2x5 1/2	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	2 R	Opt	O4IV	567	168½	10100	36x8	36x8D
††Mack A K	——	5150	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	O4IV	492	162	9800	36x5S	36x5DS
††Mack A K	——	5250	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	2 R	Opt	O4IV	492	162	9700	36x5S	36x5DS
††Mack A C	——	4950	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	OJXM	194	156	9500	36x5S	40x5DS
††Mack A K	——	6450	Own	L	6	4 1/2x5 1/2	525.5	48.6	126@2200	G	Own	Own	Spic	Han	Str	Vac	L-N	Own	4	Own	2 R	Opt	O4IV	492	174	10950	22x10.50B	22x10.50DS
††Mack A C	——	5500	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	OJXM	194	156	10100	36x6S	40x6DS
††Mack A C	——	6550	Own	L	6	4 1/2x5 1/2	525.5	48.6	126@2200	G	Own	Own	Spic	Han	Str	Vac	L-N	Own	4	Own	Ch	Opt	O4IV	492	174	11950	24x10.50B	24x10.50DB
††Mack A C	——	6000	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	OJXM	194	156	10450	36x7S	40x7DS
††Mack A P	——	9500	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	02IV	287	191	12200	36x7S	40x8DS
††Mack A K 6—6 wheel	——	9500	Own	L	6	4 1/2x5 1/2	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	2 R	Opt	ONIA	574	152-52	16300	9.75x22B	9.75x22DB
††Mack A C 6 wheel	——	7650	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	ORIV	574	125-52	13800	36x6S	40x12S
††Mack A C 6—6 wheel	——	9000	Own	L	6	4 1/2x5 1/2	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	Ch	Opt	O6IA	574	145-52	14950	40x8	40x8D
Mack A P 6 wheel	——	11500	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O6IA	574	145-52	15250	40x8	40x8D
Mack A P 6 wheel	——	12000	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O6IA	574	145-52	——	22x9.75B	22x9.75B
Paige	½	*895	Own	L	6	3 1/8x4 1/2	207.0	23.4	66@3200	C	Long	Long	Un	Ross	DL	T	DR	—	3	——	Sp	14.2	4HI	264	115	†2350	18x5.50B	18x5.50B
Pierce-Arrow P T	12000	2950	Own	L	6	3 3/4x4 1/2	298.0	33.5	70@2600	G	Long	Long	Cle	Han	Zen	P	DR	Cle	4	Tim	Sp	——	B4IMV	388	160	*5600	20x7.50B	20x7.50B
Pierce-Arrow P W	18000	4150	Own	L	6	4 1/8x4 1/2	361.0	40.3	77@2400	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	*Wo	——	W4IA	488	150	6660	20x9.00B	20x9.00B
Pierce-Arrow P X	24000	5375	Own	L	6	4 5/8x4 3/4	479.0	51.3	103@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	——	W4IA	610	160	9300	20x10.50B	20x10.50B
Pierce-Arrow P Y	28000	5950	Own	L	6	4 5/8x4 3/4	479.0	51.3	103@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Own	*Wo	——	W4IA	701	160	10675	24x10.50B	24x10.50B
Pierce-Arrow P Z	34000	6950	Own	L	6	4 3/4x5 3/4	611.0	54.1	130@2000	G	Long	Long	Cle	Han	Zen	P	DR	Own	4	Own	*Wo	——	W4IA	702	168	12800	36x7B	40x16B
Relay Series 15 AA	¾	1370	Con	L	6	3 3/8x4	214.7	27.3	52@2200	C	Long	Borg	Blo	Han	Str	Vac	Aut	W-G	4	Own	2R	36.4	L4IH	297	131	3750	30x5P	30x5P
Relay Series 15 AB	1	1400	Con	L	6	3 3/8x4	214.7	27.3	52@2200	C	Long	Borg	Blo	Han	Str	Vac	Aut	W-G	4	Own	2R	36.4	L4IH	297	131	3800	30x5P	30x5P
Relay Series S 11	1	1700	Bud	L	6	3 3/8x4 1/2	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Own	2R	25.5	L4IH	297	142	4050	30x5P	30x5P
Relay Series S 11	1½	1900	Bud	L	6	3 3/8x4 1/2	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Own	2R	30.0	L4IH	297	162	4500	30x5P	30x5DP
Relay Series 40	2	2990	Bud	L	6	3 7/8x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Own	2R	34.5	L4IH	394	168	5300	34x5P	34x5DP
Relay Series 40	2	3240	Bud	L	6	3 7/8x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Own	2R	34.5	L4IH	394	168	5500	36x6	36x6D
Relay Series 50	2	3860	Bud	L	6	3 3/4x5	331.0	33.7	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	5	Own	2R	58.5	L4IH	584	161	6800	36x6	36x6D
Relay Series S 11	2	2030	Bud	L	6	3 3/8x4 1/2	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Own	2R	30.0	L4IH	297	162	4700	32x6P	32x6DP
Relay Series 40	2½	3275	Bud	L	6	3 7/8x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Own	2R	34.5	L4IH	394	168	5700	36x6	36x6D
Relay Series 50	2½	4000	Bud	L	6	3 3/4x5	331.0	33.7	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	5	Own	2R	58.5	L4IH	584	161	7000	36x6	36x7D
Relay Series 60	2½	4555	Bud	L	6	4 1/8x5 1/8	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Own	2R	58.5	L4IH	584	175	7350	36x6	36x6D
Relay Series 50	3	4130	Bud	L	6	3 3/4x5	330.0	33.7	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	5	Own	2R	58.5	L4IH	584	161	7200	36x6	40x8D
Relay Series 60	3	4595	Bud	L	6	4 1/8x5 1/8	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Own	2R	58.5	L4IH	584	175	7500	36x6	38x7D
Relay Series 80	3	5170	Bud	L	6	4 1/8x5 1/8	411.0	40.8	83@2100	G	Long	Borg	Blo	Ross	Zen	Vac	Aut	Cov	8	Own	2R	84.1	——	—	175	8400	36x6	40x10S
Relay Series 60	3½	4745	Bud	L	6	4 1/8x5 1/8	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Own	2R	58.5	L4IH

Major Specifications and Mechanical Details of 1931 Commercial Cars

(CONTINUED FROM PAGE NINE)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brakes	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Standard Tire Sizes Rear
Selden 67 O	5	4975	Con	H	6	4⅜x4¾	427.0	45.9	100@2400	C	Own	Br-L	Spic	Ross	Str	Vac	Aut	Br-L	7	Wis	2R	——	L4IHVA	—	171	8700	36x8	36x8D
Selden 77	7	7385	Con	L	6	4½x5¾	611.0	54.1	127@2300	G	Own	Br-L	Spic	Ross	Str	Vac	Aut	Br-L	7	Wis	2R	——	BW41M	—	178	11600	40x8	42x9D
Service Series S 11	1	1600	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Coi	Sp	25.5	——	—	142	3900	30x5P	30x5P
Service Series S 11	1½	1900	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4300	30x5P	30x5DP
Service Series 40	1½	2990	Bud	L	6	3⅝x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	4700	34x5P	34x5DP
Service Series S 11	2	2030	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4500	32x6	32x6D
Service Series 40	2	3240	Bud	L	6	3⅝x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	4900	36x6	36x6D
Service Series 40	2½	3240	Bud	L	6	3⅝x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	5100	36x6P	36x6D
Service Series 60	2½	4580	Bud	L	6	4¼x5⅛	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	63.0	L4IH	584	175	7000	36x6	36x6D
Service Series 60	4	4680	Bud	L	6	4¼x5⅛	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	63.0	——	—	175	7100	36x6	38x7D
Service Series 80	3½	5250	Bud	L	6	4¼x5⅛	411.0	40.8	83@2100	G	Long	Borg	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	8200	36x6S	36x12S
Service Series 80	4	5330	Bud	L	6	4¼x5⅛	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	8400	36x6S	36x14S
Service Series 100	5	5830	Bud	L	6	4¼x5⅛	410.9	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	95.0	——	—	175	9600	36x6S	40x14S
Stewart 30	1	695	Lyc	L	4	3¾x4½	199.0	22.5	50@2600	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Sal	Sp	35.1	B4IM	..	130	*3158	20x6.50	20x6.50
Stewart 30X	1	795	Lyc	L	6	3 x4½	185.0	23.8	60@2800	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Sal	Sp	35.1	B4IM	..	130	3199	20x6.50	20x6.50
Stewart 40	1½	895	Lyc	L	4	3¾x4½	199.0	22.5	50@2600	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	35.1	B4IM	..	130	3531	20x6.50	20x6.50D
Stewart 40 X	1½	995	Lyc	L	6	3 x4½	201.5	23.8	60@2800	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Sal	Sp	35.1	B4IM	..	130	3574	20x6.50	20x6.50D
Stewart 34 X	2½	1195	Lyc	L	6	3¼x4½	224.0	25.3	61@2600	G	Own	Borg	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	35.1	B4IM	..	145	3891	20x6.50	20x6.50D
Stewart 28 X	2	1495	Lyc	L	6	3¼x4½	224.0	25.3	61@2600	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	44.1	B4IM	..	136	4239	20x6.50	20x6.50D
Stewart 29 X S	2	1695	Lyc	L	6	3⅜x4½	278.0	25.3	85@2750	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	44.1	B4IM	..	145	5194	32x6	32x6D
*Stewart 18 X	2½	2690	Lyc	L	6	3⅜x5	310.0	31.5	85@2750	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	4	Tim	Wo	48.1	B4IM	..	165	6245	32x6	32x6D
Stewart 32 X	2½	1990	Lyc	L	6	3⅜x4½	278.0	31.5	80@2500	G	Mod	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	46.1	B4IM	..	165	5552	32x6	32x6D
Stewart 35 X	3	2590	Lyc	L	6	3¾x4½	299.0	33.8	85@2750	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	46.1	B4IM	..	165	5224	20x8.25B	20x8.25D
Stewart 36 X	3	2990	Lyc	L	6	3¾x5	354.0	36.2	90@2750	G	Fed	Borg	Spic	Ross	Str	P	DR	Br-L	4	Tim	Wo	105.1	B4IM	..	165	6864	20x8.25	20x8.25D
Stewart 49 X	3½	3690	Lyc	L	6	3⅞x5	354.0	36.2	90@2750	G	Mod	Ful	Spic	Ross	Str	P	DR	Ful	12	Tim	Wo	105.1	B4IM	..	165	7474	34x7	34x7D
Stewart 38-8	3½	3990	Lyc	L	8	3¾x4¾	462.0	44.4	130@2800	G	Fed	Borg	Spic	Ross	Str	P	DR	Br-L	12	Tim	2R	105.1	B4IMV	..	170	7964	20x9.00	20x9.00D
Stewart 38-6	3½	3990	Wak	L	6	4⅜x5⅛	420.0	45.9	100@2000	G	Fed	Borg	Spic	Ross	Str	P	DR	Br-L	12	Tim	2R	105.1	B4IMV	..	170	7964	20x9.00	20x9.00D
Stewart 31 X	5	4990	Wak	L	6	4⅜x5⅛	462.0	45.9	100@2000	G	Mod	Ful	Spic	Ross	Str	P	DR	Ful	8	Tim	Wo	105.1	B4IMV	..	165	5885	36x6S	36x6SD
Stewart 27 X	7	5700	Wak	L	6	4⅜x5⅛	462.0	45.9	100@2000	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	8	Tim	Wo	105.1	B4IMV	..	165	6512	36x7	40x7D
Studebaker S-1	½	595	Own	L	6	3⅜x4½	221.0	27.3	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	3	Own	Sp	36.4	B4IM	148	114	*2897	19x5.25	19x5.25
Studebaker S-20	1½	695	Own	L	6	3½x4½	205.0	25.4	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	4	Tim	Sp	36.2	B4IM	224	130	3044	20x6.00	32x6
Studebaker S-30	1½	775	Own	L	6	3½x4½	205.0	25.4	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	4	Tim	Sp	36.2	B4IM	224	130	3199	20x6.00	32x6
Studebaker S-40	2	945	Own	L	6	3½x4½	205.0	25.4	70@3200	C	McC	Long	Cle	Ross	Str	P	DR	W-G	4	Tim	Sp	37.4	B4IM	276	136	3825	20x6.50	20x6.50D
Studebaker S-50	2	895	Own	L	6	3½x4½	205.0	25.4	70@3200	C	McC	Long	Cle	Ross	Str	P	DR	W-G	4	Tim	Sp	37.4	B4IM	276	148	3855	20x6.50	20x6.50D
Studebaker S-60	2	945	Own	L	6	3½x4½	205.0	25.4	70@3200	C	McC	Long	Cle	Ross	Str	P	DR	W-G	4	Tim	Sp	37.4	B4IM	276	160	3909	20x6.50	20x6.50D
Studebaker 88	——	3295	Own	L	8	3½x4¾	327.0	39.2	115@3200	G	Long	Long	Spic	Ross	Str	P	DR	Ful	4	Eat	Sp	24.6	B4IMV	444	184	5413	20x7.50	20x7.50D
Studebaker 90	——	3795	Own	L	8	3½x4¾	337.0	39.2	115@3200	G	Long	Long	Spic	Ross	Str	P	DR	Ful	4	Eat	Sp	24.6	B4IMV	505	184	5680	20x7.50	20x7.50D
White 160	*8,000	1545	Own	L	4	3¼x5⅛	226.4	22.5	31@1600	G	Own	Own	Spic	Own	Zen	Vac	L-N	Own	4	Own	Sp	18.6	O2XM	226	133½	2402	30x5	30x5
White 60	*8,000	1700	Own	L	4	4 x5⅜	289.0	25.6	45@1800	G	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4625	30x5	30x5
White 161	*9,600	1850	Own	L	6	3½x4½	260.0	29.4	54@2100	C	Own	Own	Mec	Han	Zen	Vac	DR	Own	3	Own	Sp	17.8	L4IH	276	138	3739	30x5	30x5D
White 158	*7,500	1850	Own	L	4	4 x5⅜	289.0	25.6	45@1800	G	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4290	34x7	34x7
White 162	*10,000	1900	Own	L	4	4 x5⅜	289.0	25.6	45@1800	G	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4360	30x5	30x5D
White 210	*10,000	2300	Own	L	4	4 x5⅜	289.0	25.6	45@1800	G	—	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	22.4	L4IH	349	148	4875	30x5	30x5D
White 61	*10,500	2450	Own	L	6	3¾x4½	299.0	33.7	61@2100	C	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	4789	30x5	30x5D
White 611	*11,500	2550	Own	L	6	3¾x4½	299.0	33.7	61@2100	C	—	Own	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	4980	20x7.00B	20x7.00DB
White 211	*11,500	2425	Own	L	4	4 x5⅜	289.0	25.6	45@1800	G	—	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5110	32x6	32x6D
White 212	*13,000	2700	Own	L	4	4 x5⅜	289.0	25.6	45@1800	G	—	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5230	34x7	34x7D
White 56	*13,000	3125	Own	L	4	4 x5⅜	289.0	25.6	45@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	26.2	O2IM	268	165	5276	36x4	36x7
White 612	*13,000	2800	Own	L	6	3¾x4½	299.0	33.7	61@2100	C	—	Own	—	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5100	20x7.50B	20x7.50DB
White 620	*15,000	4350	Own	H	6	4 x5⅛	396.0	38.4	72@1800	G	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.8	OL4IHV	—	157	7300	20x8.25B	20x8.25DB
White 51A	*17,000	3750	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	35.6	O2IM	335	170	6438	36x5	36x8
White 51AT	*17,000	3875	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	46.6	O2IM	335	134	6227	36x5	36x8
White 621	*18,000	4650	Own	H	6	4 x5⅛	396.0	38.4	72@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.4	OL4IHV	—	157	7700	20x9.00B	20x9.00DB
White 610	*20,000	6100	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	Sp	32.9	O4IA	—	180	9200	20x9.00B	20x9.00DB
White 630	*20,000	5000	Own	H	6	4 x5¼	396.0	38.4	72@1800	C	—	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.4	O4IHV	554	168	8500	20x9.00B	20x9.00DB
White 650	*21,500	4650	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own*	Zen	Vac	Eis	Own	4	Own	2R	66.1	OPXM	224	174	8737	36x5	40x5D
White 55	*22,000	4400	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	49.7	OPXM	224	180	7797	36x5	36x5D
White 58	*24,000	6450	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	46.9	O4IA	—	180	9700	20.9.75B	20x9.75DB
White 611	*24,000	6450	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	—	Own	Spic	Ross	Zen	P	DR	Own	4	Tim	Wo	44.2	OT1HV	—	193	10000	20x8.25B	20x8.25DB
*White 630 SW200	*24,000	6280	Own	H	6	4 x5¼	396.0	38.4	72@1800	C	—	Own	Spic	Ross	Zen	P	DR	Own	4	Own	2R	56.9	O4IHV	—	168	9000	20x9.25B	20x9.25DB
White 631	*24,000	5750	Own	H	6	4 x5¼	396.0	38.4	72@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	2R	56.9	O4IHV	—	168	9000	20x9.25B	20x9.25DB
White 52	*28,000	5100	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	53.4	OPXM	224	174	9409	36x6	40x12
White 52T	*28,000	4700	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	76.5	OPXM	224	129½	8461	36x5	40x5D
White 643	*32,000	6950	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	66.5	O4IA	—	180	10900	24x10.50B	24x10.50DB
*White 642 SW310	*34,000	8045	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	—	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo	85.6	OT1HV	—	198	12670	20x9.00B	20.9.00DB
White 642	*34,000	6750	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	66.5	O4IA	—	180	10600	24x9.75B	24x9.75DB
*White 643 SW110	*40,000	8570	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	—	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo	89.9	OT1HV	—	198	14400	40x8	40x8D
**White 60K	——	2200	Own	L	6	3½x4½	260.0	29.4	54@2100	C	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	17.6	L4IH	276	112	4200	20x7.00B	20x7.00B
White 601	——	1900	Own	L	6	3½x4½	260.0	29.4	54@2100	C	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	3825	20x7.00B	20x7.00B
White 602	——	2050	Own	L	6	3½x4½	260.0	29.4	50@1800	C	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4125	20x7.50B	20x7.50B
Willys 6-C-113	½	395	Own	L	6	3¼x3⅞	193.0	25.3	65@3400	C	Fed	Borg	Spic	Own	Til	P	Aut	Own	3	Own	Sp	12.4	B4IM	143	113	1923	19x5.00	19x5.00
Willys 6-C-131	1½	595	Own	L	6	3¼x3⅞	193.0	25.3	65@3400	C	Fed	Borg	Spic	Own	Til	P	Aut	W-G	4	Cla	Sp	40.8	B4IM	235	131	2625	20x5.50	32x6
Willys 6-C-157	1½	630	Own	L	6	3¼x3⅞	193.0	25.3	65@3400	C	Wed	Borg	Spic	Own	Til	P	Aut	W-G	4	Cla	Sp	46.8	B4IM	235	157	2900	20x5.50	32x6

GENERAL NOTATIONS

****REFERENCE MARKS** apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight in pounds.

ENGINE—Bud, Buda; Con, Continental; Her, Hercules; Lyc, Lycoming; Pont, Pontiac; Wak, Waukesha; Wis, Wisconsin; Hall, American Car & Foundry.

VALVE ARRANGEMENT—L, "L" head; H, in head; O, overhead; T, T head; S, sleeve.

TYPE OF CAMSHAFT DRIVE—G, gear; C, chain.

RADIATOR MAKE—G & O, G & O Mfg. Co.; Per, Perfex Corp.; Long, Long Mfg. Co.; Har, Harrison Radiator Corp.; Fed, Fedders Mfg. Co.; McC, McCord Radiator & Mfg. Co.; Mod, Modine Mfg. Co.; Hex, Hexcel Radiator Co.

CLUTCH MAKE—Jon, Jones Clutch & Gear Co.; Ful, Fuller & Sons Mfg. Co.; Borg, Borg & Beck Co.; Br-L, Brown Lipe Gear Co.; Rock, Rockford Drill & Machine Co.; Cov, Covert Gear Co.; Long, Long Mfg. Co.; Detr, Detroit Gear & Machine Co.; Mer, Merchant & Evans; Hel, Merchants & Evans.

UNIVERSALS MAKE—Spic, Spicer Mfg. Co.; Blo, Blood Bros. Machine Co.; Sup, Superior Universal Products; Un, Universal Products Co.; Cle, Cleveland Steel Products Corp.; Pet, Peters; Opt, optional; Mec, Mechanics Machine Co.

STEERING GEAR MAKE—Ross, Ross Gear & Tool Co.; Han, Hannum Mfg. Co.; Sag, Saginaw Steering Gear Co.; Gem, Gemmer Mfg. Co.; Col, Columbus Gear & Pump Co.; W-G, Warner Gear Corp.

CARBURETOR—Car, Carter; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; Det, Detroit Lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, gravity; Vac, vacuum tank; P, fuel pump.

ELECTRICAL SYSTEM—AB, American-Bosch; Aut, Electric Auto-Lite; Eis, Eisemann; L-N, Leece-Neville; NE, North East; RB, Robert Bosch; DR, Delco-Remy.

TRANSMISSION—Br-L, Brown-Lipe; Cov, Covert; Ful, Fuller; Mec, Mechanics Machine; Mun, Muncie; W-G, Warner Gear; Cot, Cotta Gear Co.; Cla, Clark Equipment Co.

REAR AXLE, Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Pont, Pontiac; Sal, Salisbury; Tim, Timken; Wis, Wisconsin.

FINAL DRIVE—IG, internal gear; St, straight bevel; Sp, spiral bevel; Wo, worm; 2R, double reduction; Ch, chain; S-T, semi-transverse.

TYPE OF SERVICE BRAKES—B4IM, Bendix, 4 wheel, internal mechanical; B6IA, Bendix, 6 wheel, internal air; B4IMV, Bendix, 4 wheel, internal mechanical, vacuum; BrIA, Bendix, operating on 4 rear wheels, internal air; BW4IM, Bendix front, Wisconsin rear, 4 wheel internal, mechanical; BE4IM, Bendix front, Eaton rear, 4 wheel, internal mechanical; BO4IM, Bendix front, own rear, 4 wheel internal mechanical; B4IH, Bendix, 4 wheel, internal hydraulic; B4, Bendix, 4 wheel.

C4IM, Columbia, 4 wheel, internal, mechanical; K2IM, Clark, 2 wheel, internal, mechanical.

L4IHVA, Lockheed, 4 wheel, internal, hydraulic, vacuum, air; LO4ID, Lockheed, own, 4 wheel, internal, drive shaft; LO4IV, Lockheed, own, 4 wheel, internal, vacuum; LT4DV, Lockheed Timkin, 4 wheel, drive shaft, vacuum; L4IH, Lockheed, 4 wheel, internal, hydraulic; L4IHV, Lockheed, 4 wheel, internal, hydraulic, vacuum; LT4IVA, Lockheed, Timken, 4 wheel, internal, vacuum, air; L6IHV, Lockheed, 6 wheel, internal, hydraulic, vacuum; L6IH, Lockheed 6 wheel, internal, hydraulic.

O2IM, Own, 2 wheel, internal, mechanical; O2IV, Own, 2 wheel, internal, vacuum; O4IA, Own, 4 wheel, internal, air; O4IM, Own, 4 wheel, internal, mechanical; O4IV, Own, 4 wheel, internal, vacuum; O4M, Own, 4 wheel, mechanical; O2XM, Own, 2 wheel, external, mechanical; O4XM, Own, 4 wheel, external, mechanical; OJXM, Own, jack shaft, external, mechanical; OL4IH, Own, Lockheed, 4 wheel, internal, hydraulic; OPX, Own, propeller shaft, external; OPXM, Own, propeller shaft, external, mechanical; OPM, Own, propeller shaft, mechanical; ORIV, Own, rear wheels, internal, vacuum.

S4IM, Steeldraulic, 4 wheel, internal, mechanical.

T4rIA, Timken, operating on 4 rear wheels, internal, air; T4IA, Timken, 4 wheel, internal, air; T6IA, Timken, 6 wheel, internal, air; T2IMV, Timken, 2 wheel, internal, mechanical, vacuum.

W4I, Westinghouse, 4 wheel, internal; W4IA, Westinghouse, 4 wheel, internal, air. W6IA, Westinghouse 6 wheel, internal, air. 4IA, 4 wheel, internal, air; 4IH, 4 wheel, internal, hydraulic; 4M, 4 wheel, mechanical.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

***CHASSIS WEIGHT** according to Automotive Daily News formula, which is the chassis with gas, oil, water and spare tire, but without cab or other equipment.

TIRES—B, balloon; D, dual; S, solid; P, pneumatic.

SPECIAL NOTATIONS

AMERICAN-LA FRANCE

*Chief model also available as 2½-ton model, 34x7 tire, dual rear; weight, 6,400. Price, $3,900.

Chieftain model also available as dump truck, 160-inch wheel base.

Balloon tires optional on Chief, Chieftain and Big Chief models.

AUTOCAR

*Engines in these models are located under the driver's seat.

BROCKWAY

*Six-wheelers.

CHEVROLET

Utility model available on 131-inch wheel base with chassis weight of 2,760 pounds and equipped with dual rear wheels.

DAY ELDER

*Six-wheeler.

Additional standard wheel bases are available on different models as follows:

85.....146, 168 240.....204
110.....168, 186 285.....204
130.....163, 187, 193 345.....204
160.....165, 180, 204 402.....204

DODGE

*Models F40, F41, F61 and F62 can be had with double drop frame.

DIAMOND T

*Six-wheelers.

Additional standard wheel bases available as follows:

551.....158 750.....167, 192
504.....166½ 801.....180½, 199¼
506.....174 1300.....174½, 180
603.....157, 179 1600.....174½, 180
606.....177½ 1601.....184

F. W. D.

*Indicates six-wheel model.

The BTL and BT models are special line construction trucks in which complete provision for mounting AT and T earth boring machine, winch, body and other line construction accessories is included in the standard chassis.

Special power take-off transmission, which provides 3 power take-offs which may be operated in any transmission speed, optional on all models.

FEDERAL

*Six-wheelers.

†Solid tires standard, no spare rim or tire.

GRAMM

Series	Straight Rating	Wheel Base	Pay Load Range
AX 4	8,000	157	1 to 1½ tons
AX 6	8,000	157	1 to 1½ tons
BX 4	10,000	157	1½ to 2 tons
BX 6	10,000	157	1½ to 2 tons
CX 4	12,000	157-180	2 to 3 tons
CX 6	12,000	157-180	2 to 3 tons
B	12,000	157-174	1¾ to 2½ tons
C	14,000	145-196	2 to 3 tons
D	17,000	145-196	2½ to 4 tons
E	20,000	145-196	3 to 4½ tons
EY			3 to 4 tons
GY			4 to 5 tons
GW	28,000	157-240	5 to 7½ tons
HY			5 to 6½ tons

†Both the four and six cylinder are also offered in 157-inch wheel base at $1,145 and $1,345, respectively.

GENERAL MOTORS TRUCK

*Capacity indicated is the Straight Rating (combined weight of chassis, body, equipment and pay load) for which each chassis is designed and guaranteed to satisfactorily operate under average conditions. The size of the tires used does not affect this Straight Rating, but to secure maximum tire mileage it is suggested that the total gross weight be limited to a "recommended gross weight" for each tire equipment based on tire capacity. Prices cover base chassis and vary with wheel base and tire combinations. The number of wheel base lengths, tire types, range of "recommended gross weights" and resulting pay load range (assuming nominal body allowance) for each model follows:

Note: Models T-15 to T-60, inclusive, are available for export only as coach chassis.

Model	Wheel Bases	Tire Types	Range of Rec. Gross Weights*	Pay Load Range
T-11	1	1	3800	½
T-15	3	10	4500- 6500	½-1½
T-17	3	8	5500- 6500	1-1½
T-19	3	22	6500- 8500	1½-2
T-25	3	17	6800- 9000	1½-2
T-26	4	..	8500-11000	2-3
T-30	3	15	10000-14000	3-5
T-31	4	..	11000-14000	2½-4
T-42	4	12	12000-15000	2½-4
T-44	4	13	12000-16000	3-4½
T-45	4	..	13500-16000	3-4½
T-51	4	..	16500-19000	4-5½
T-55	4	..	16500-19000	4-5½
T-60	4	18	18500-22000	5-6½
T-61	4	..	19500-22000	5-6½
T-82	4	12	19000-24000	5-7
T-83	4	..	20000-24000	5-7
T-85	3	..	22000-26000	5-7
T-90	3	7	22000-28000	5-7½
T-95	3	..	28000-34000	7-9
T-96	3	..	28000-34000	7-9

†Models T-90, T-95 and T-96 are six-wheelers, the latter having one driven and one trailing axle. Optional rear axle gear ratios available for all models. Double reduction axles available for Models T-60, T-61, T-82 and T-83.

INDIANA

*Six-wheelers.

MACK

Other wheel bases furnished on all truck models.

On 6-wheel jobs 4 rear wheels driven by chains, foot brake on 4 rear wheels.

††Made also in tractor models.

PAIGE

*Price includes panel or screen body. †Chassis weight given does not include gas, water, etc.

PIERCE-ARROW

*Optional final drive on Models PW, FX, PY and PZ.

REO

Models DF 129, DF, FA, FE and FF are available with duel wheels at additional cost.

*Models DF129 and DF 135 can be had with either 3 or 4 speed transmission.

SELDEN

Additional standard wheel bases are available on different models as follows:

Model 37C..... 162 and 164
39C..... 177 and 190½
47CB, 47CD.. 151, 164 and 184
67C.....151, 164, 184 and 198

STEWART

Models 30 and 30X can also be supplied in 110, 120, 140 and 160-inch wheel base.

Models 40 and 40X can also be supplied in 110, 140 and 160-inch wheel base.

*Models 34X can be supplied in 135, 145, 160 and 176-inch wheel base.

Model 28X can be supplied in 130, 145, 160 and 176-inch wheel base.

Model 29XS can be supplied in 135, 160 and 176-inch wheel base.

*Models 18X, 32X and 36X can be supplied in 148, 190 and 220-inch wheel base.

*Models 19X, 31X and 27X can be supplied in 148, 172, 190, 220 and 235-inch wheel base.

As optional equipment Models 18X, 19X, 36X, 31X and 27X can be supplied with Timken dual reduction rear axle.

Models 38-8 and 38-6 can be supplied in 150, 160, 170, 196, 226 and 241-inch wheel base and worm axle.

STUDEBAKER

Maximum gross load, chassis, body and pay load for Model 88 is 12,500 pounds and for Model 99 is 14,000 pounds.

‡Hand brake same as foot brake, standard. Hand brake on drive shaft, special equipment.

WHITE

*Six-wheelers.

**Price on Model 60K includes body.

VANCOUVER ISLAND FEE SCALE ON LICENSES CUT

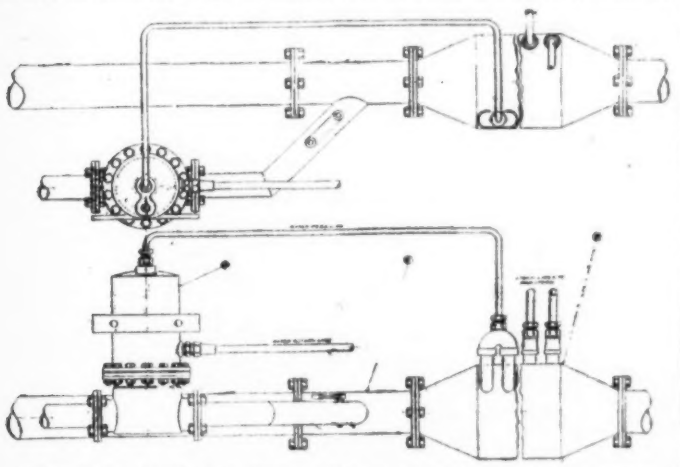
Vancouver, B. C., July 30.—City licenses fees for garages in Duncan, Vancouver Island, B. C., were recently amended, and as a result, a lower rate is now in force. Gar

Production--Engineering--Factory

Superheated Steam System For Buses

A new system of heating buses by superheated steam has been developed by Bordeaux Laboratories, Inc., Albany, N. Y. For this purpose the heat available throughout the entire length of the exhaust conduit is utilized to heat radiators which are installed in the bus.

In developing this new heating system, C. G. Bordeaux, director of the laboratories, stated that the primary considerations were safety, the avoidance of units which would introduce combustion gases directly into the heating device, that the system should be easily controlled from the dash, that it should operate at low cost and be inexpensive to install. Simplicity in construction and operation was also considered essential for the installation of a suitable heating system.



BORDEAUX STEAM GENERATING SYSTEM (A) steam generator, (B) feed pump unit, (C) pump control unit

"Concentrating on the tremendous heat power available throughout the entire length of the exhaust conduit, Mr. Bordeaux comments, in discussing the new system, "we readily saw the advantages of heating with superheated steam. Here was abundant heat at no cost at all. It required simply adequate and properly designed coils encircling the exhaust pipe (between engine and muffler) over sufficient area to generate the steam and raise it to the desired temperature.

"For this steam generator, two alloy tubes were used, three-fourths inch in diameter, spirally wound on a three-inch mandrel over a length of eleven inches, about thirty-two feet of tubing in all, or sixteen feet for each radiator. This arrangement afforded about 215 square inches of heating area, ample for buses from sixteen to forty passengers capacity.

"From the generator the superheated steam is led into the bus, and delivers up its heat content through two radiators. Each radiator is made from a single length of one and one-fourth-inch seamless copper tubing, on which are mounted steel fins. At the far end of each radiator is an air compressor tank to take up any air trapped in the system, thus permitting the radiator to heat through its entire length.

"Now let's look at the pump, that very important part of the system which supplies the generator with a controlled amount of water for conversion into steam, whereby the pressure is maintained constant, regardless of exhaust temperature when the engine labors heavily.

"This pump is mounted on a line of 1½-inch tubing, which is joined to the exhaust immediately behind the generator by means of a Y connection. At the point of connection this line is equipped with a butterfly valve and shaft (the control unit) and is regulated from the instrument panel. In this way the bus operator is able to regulate accurately the amount of exhaust diverted from the main line through the pump mechanism.

"The pump is built in two parts. The upper part, or reservoir, is a bronze casting, with a capacity of about a quart, but using only sixteen ounces of water in actual operation. The lower part, or base, through which the exhaust is bypassed, is a hollow aluminum casting. Projecting down into this lower part and separating it from the reservoir is a finned well casting.

"This well has a ⅛-ounce capacity. It is connected to the reservoir by means of a hydrostatic valve, and to the steam generator with a length of ¼-inch asbestos-covered copper tubing.

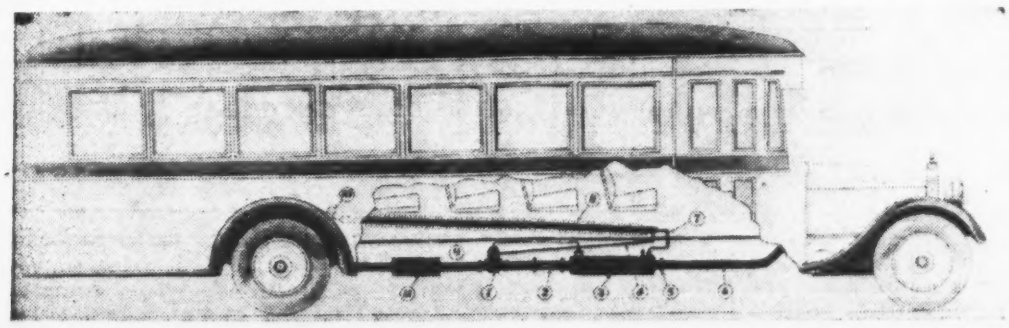
"In operation the hot exhaust gases cause the water in the well to expand and percolate over into the generator coils. The instant the well is relieved the water in the reservoir opens the hydrostatic valve and more water flows in. This, in turn is spurted over to the generator. Here, since the exhaust has heated the coils to a high temperature, the water is instantly converted into steam, thence into super-heated steam, before it is discharged into the radiators.

"Shock-proof extra heavy gauge copper tubing thoroughly insulated, conveys the steam to the radiators where it gives its heat, condenses and drains to the base of the radiator. Here another copper tubing is connected and returns the water back to the pump-reservoir for re-use.

"The action of the butterfly valve in regulating temperature is fairly apparent. The wider open it is, that is to say, the more hot exhaust gases are by-passed through the pump, the greater the speed with which the water is transmitted from the reservoir to the generator.

"In warm weather, by closing this valve completely from the dash, heat is cut off from the pump and no water is forced into the generator. Thus no steam is sent to the radiators, and the system remains closed.

"This heating system is sealed tight, is build throughout of heat, wear and corrosion resisting materials, and requires no valve in the steam or return lines to control the pressures. Perhaps most attractive to the transport operator, the Bordeaux system operates wholly without cost for fuel or for power



BUS INSTALLATION of Bordeaux steam heating system. Principal units are indicated at (1) feed pump unit, (2) pump control unit, (3) steam generator, (8) radiator

S. A. E. ANNOUNCES AERONAUTIC MEETING PROGRAM

The program for the twentieth National Aeronautic Meeting of the Society of Automotive Engineers to be held at the Hotel Statler Cleveland, O., has been announced. It is presented herewith:

Tuesday, September 1

10. A. M.—ENGINES

Sealed Liquid-Cooling—J. H Geisse, Comet Engine Company

The Turbo Supercharger—O Chenoweth and A. L. Berger, United States Air Corps, Wright Field.

8.30 P. M.—AIRCRAFT

A Study of Airplane Vibration with Particular Reference to Vibration at the Instrument Board—S J. Zand, Pioneer Instrument Company.

A Rational Method of Determining Flight Load-Factors—J. S. Newell, Massachusetts Institute of Technology.

Wednesday September 2

10 A. M.—ENGINES

Progress of Autogiro Development—A. E. Larsen, Autogiro Company of America.

Magnesium in Aircraft Construction—G. D. Welty, Aluminum Company of America.

8.30 P. M.—ENGINES

Further Investigation of the Fuel Injection with Spark Ignition in an Otto-Cycle Engine—E. S. Taylor and George L. Williams, Massachusetts Institute of Technology.

The Development of an Apparatus for the Study of Combustion in High-Speed Diesel Engines—A. M. Rothrock, National Advisory Committee for Aeronautics.

Thursday, September 3

10 A. M.—PROPELLERS

Controllable and Automatic Aircraft Propellers—D. A. Dicky and Lieut. O. R. Cook, United States Air Corps, Wright Field.

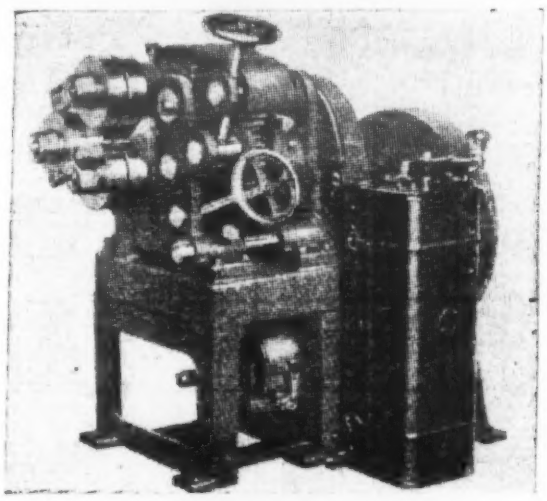
Aeronautic Propellers—F. W. Caldwell, Hamilton Standard Propeller Company.

8.30 P. M.—DUTCH SUPPER

SPRINGBORO DEVELOPS HOUSE-TO-HOUSE DELIVERY

A house-to-house delivery body in which will be used standard Chevrolet units is being developed by Springboro Manufacturing Company, Springboro, Pa. The unit will have a new drop frame and the body will be different from anything on the market at the present time, the manufacturer states.

Open End Forming Machine

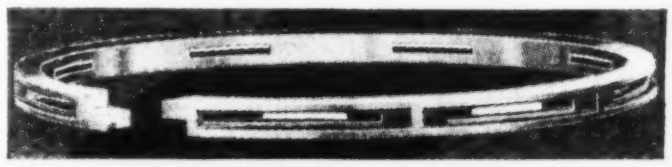


HENDLEY forming machine

AN open-end forming machine that will bend angles, tees, leg in or leg out, and flats, on flat or on edge, into circles of different diameters, depending on the size and shape of the section and the nature of the material, has been placed on the market by the Hendley & Whittemore Company, Beloit, Wis. The pinch type design, it is claimed, affords positive feed of the material through the rolls, regardless of the shape, size, or thickness of the section or the diameter of the circles to be produced. It also makes possible, it is stated, by reversing the work between passes, to reduce the amount of flat and distortion at the ends of the material.

The manufacturer recommends a five horse power variable speed slip-ring reversing type motor for use with this machine.

Hi-Unit Pressure Oil Ring



M'QUAY NORRIS Hi-unit pressure piston ring

A new type piston ring known as the Hi-Unit pressure Superoyl ring is announced by McQuay Norris Manufacturing Company, St. Louis, Mo.

In the design of the ring a scraping and distributing groove is located at the lower edge for the purpose of shearing surplus oil from the cylinder wall effectively.

The ring is grooved on its outer circumference and pierced by smaller slots to the inside of the ring to distribute the oil.

The ring is step-cut and made of electric furnace iron. Price 50 cents.

ENAMELS APPLIED CENTRIFUGALLY

BARRETT centrifugal enameler

Centrifugal machines are now made by Leon J. Barrett Company, Worcester, Mass., which can be used for new applications. These include enameling, japaning and coating, and the impregnation under hydrostatic pressure of electric coils and other articles.

For coating parts made of wood, fibre or metal, weighing from a fraction of an ounce to several pounds the company has developed the centrifugal Filwhirl enameler. In these operations saving in time, evenness of coating and freedom from drip and thick spots, together with bulk handling are claimed.

S. A. E. TRANSPORTATION MEETING TO BE HELD AT WASHINGTON

The ninth annual national transportation meeting of the Society of Automotive Engineers will be held at the Shoreham Hotel, Washington, D. C., October 27, 28 and 29. Six technical sessions and two inspection trips have been arranged. It is also probable that a call will be made on President Hoover at the White House.

The papers to be presented at the sessions will deal with the relation of the motor transportation engineer to motor transport operations; the railroads and motor transportation; application of Diesel engines in commercial motor vehicles, and lubrication of both the engine and the chassis. There are also to be a discussion of what the Bureau of Standards is doing for business, a discussion of motor coach chassis and bodies, including all-metal bodies, and a report in the nature of a paper that will be based on a broad survey now in progress of the equipment and operation of fleet owners' repair shops and the service and maintenance furnished by manufacturers' and commercial repair shops.

Trips will be made to the properties of the Washington Railway and Electric Company and to the Bureau of Standards.

The annual transportation dinner is being arranged through the cooperation of the Baltimore and Washington sections of the society.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

WEEKLY BUSINESS INDICATORS

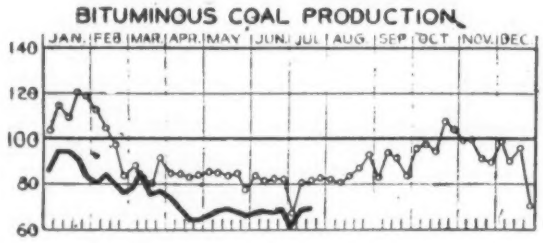
SURVEY OF CURRENT BUSINESS

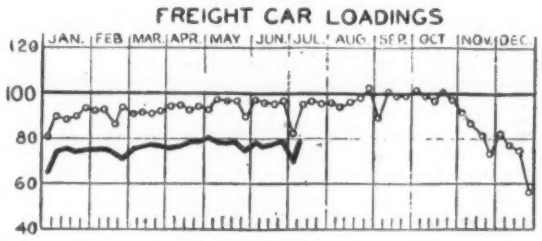
UNITED STATES DEPARTMENT OF COMMERCE

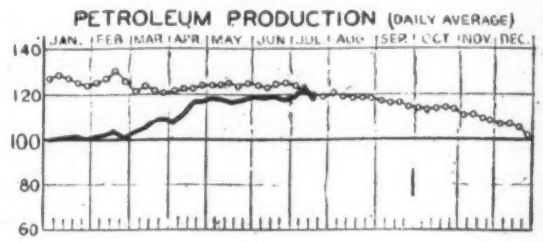
DATA PLOTTED, WHERE AVAILABLE FOR WEEK ENDING JULY 25, 1931

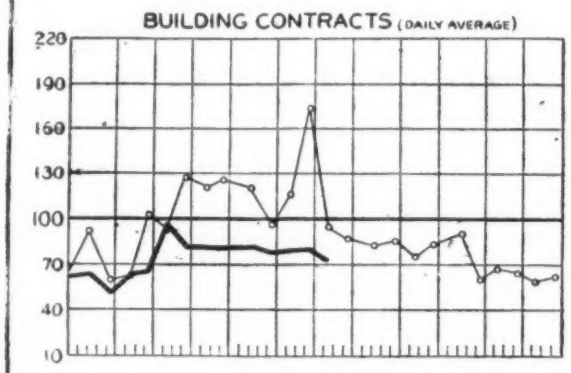
WEEKLY AVERAGE, 1923-1925, INCLUSIVE=100

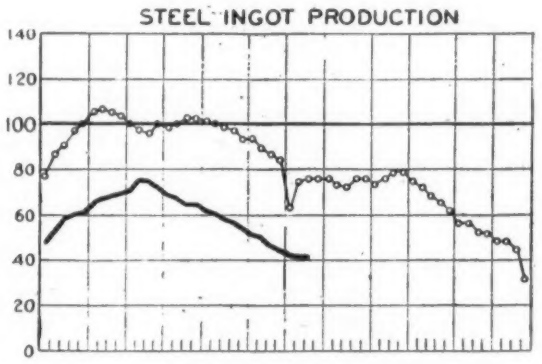
LEGEND
1930
1931

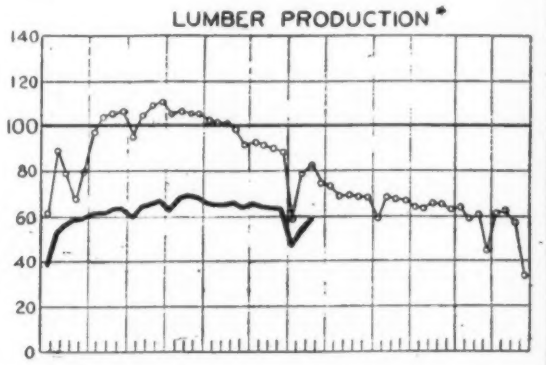


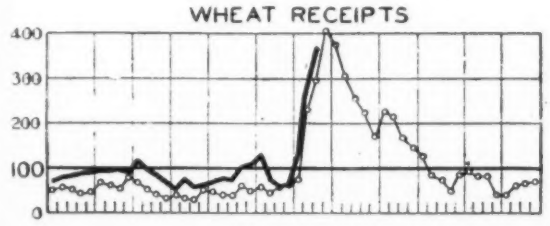


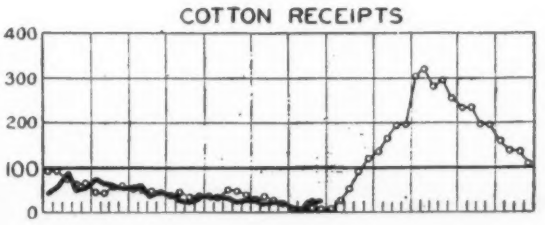


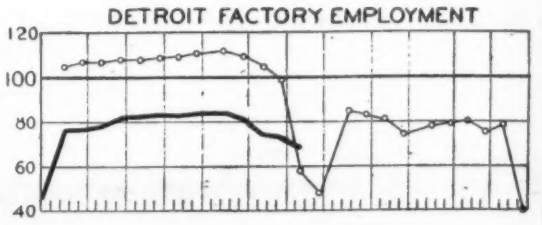


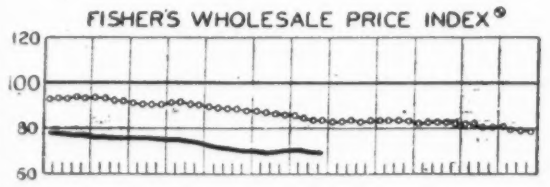


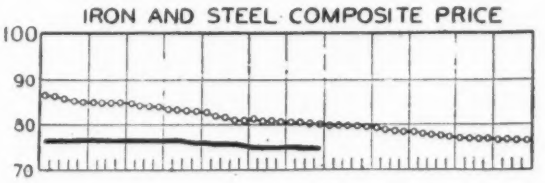


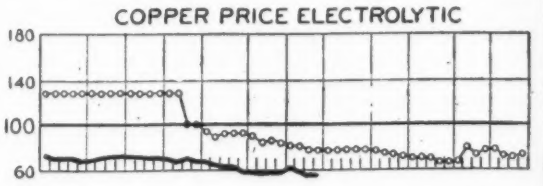


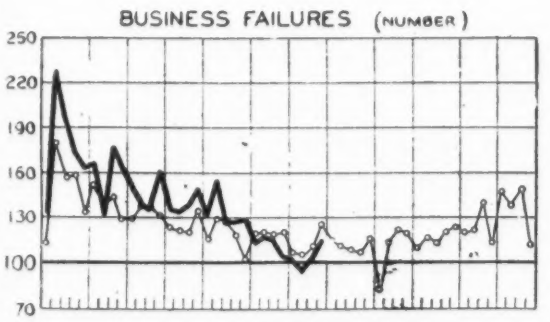


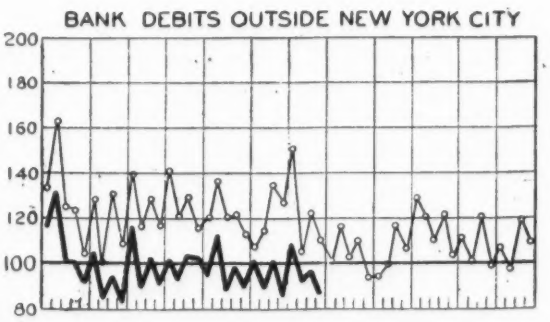


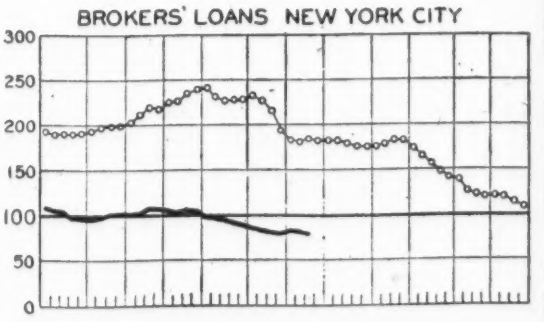


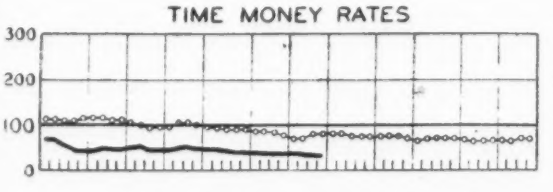


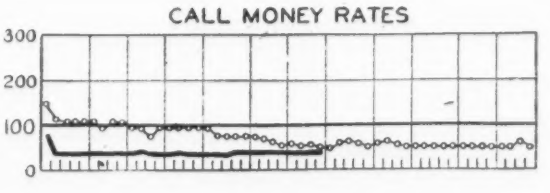


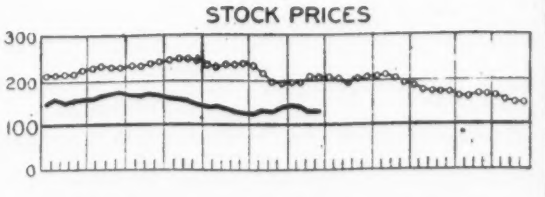


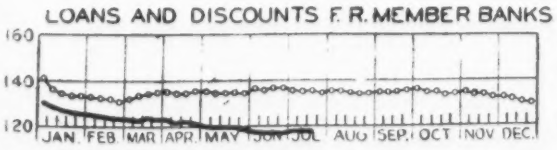


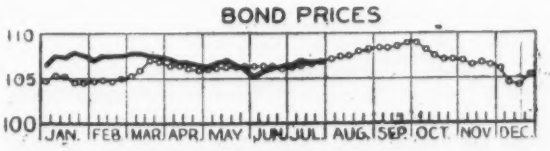


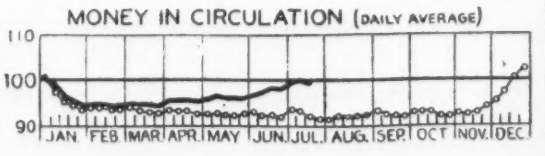












* RELATION TO WEEKLY AVERAGES 1928-1930 PER WEEK SHOWN. ● RELATIVE TO 1926=100

EXTENSION OF NEW JERSEY SHORE BUS LINE APPROVED

Trenton, N. J., July 30.—Extension of the Boro Bus Corporation's Asbury Park-Eatontown route into Atlantic Highlands has been approved by the Public Utility Commission. Permission was given to operate five vehicles over the line, three of which would be used exclusively for handling round-trip passengers from the boats of the Central Railroad of New Jersey at Atlantic Highlands to Asbury Park. The remaining two vehicles would be used for transporting passengers on the straight-fare basis between Asbury Park, Ocean township, Eatontown, Campbell's Junction, Red Bank, Shrewsbury and Atlantic Highlands.

NASH APPOINTS SAVIDGE, INC., SEATTLE AREA DISTRIBUTOR

Seattle, Wash., July 30.—The Nash Motors Company has formally announced the appointment of S. L. Savidge, Inc., as distribution, sales and service headquarters for Nash products in the Seattle territory. Its area embraces all of Washington, and Alaska, northern Idaho and western Montana, and covers fifty-seven counties.